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ALLIED (GEOGRAPHICAL SECTION)
1 SOUTHWEST PACIFIC AREA

TERRAIN STUDY No. 87

AREA STUDY OF
TANIMBAR ISLANDS

Netherlands East Indies

(Revised)

30 June, 44

01017

General Headquarters,
Southwest Pacific Area,
30 June, 44.

This Terrain Study contains geographical information on the Tanimbar Islands and supersedes Terrain Study 53 (Area Study - Tanimbar Islands).

All available geographical information of value to staffs for operational and planning purposes has been collated and is incorporated herein.

The maps are intended to be used in conjunction with operational maps.

By command of General MacARTHUR.

R. K. SUTHERLAND,
Lieutenant General, U.S.A.,
Chief of Staff.

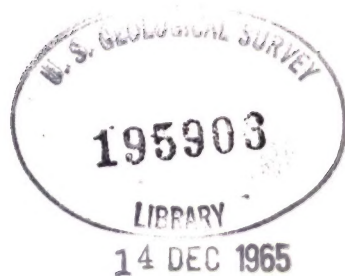
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| 14. ABSTRACT The Tanimbar Group, or the Timor Laoet Archipelago, is in the eastern end of the Banda Sea 300 statute miles north of Darwin. This report includes: Military importance; Offshore conditions and islands; Ports, anchorages and harbors; Descriptions of coasts and beaches; Physiography; Vegetation; Rivers, lakes and swamps; Airfields and landing grounds; Roads and Trails; Transport; Signal communication; Towns and barrios; Resources, repair facilities, etc.; Population; Administration; Medical problems; Climate and meteorological conditions; Sources of information- publications and persons with local knowledge interviewed; Gazetteer of place names. 44 B&W photographs; 12 maps. | | | | | | |
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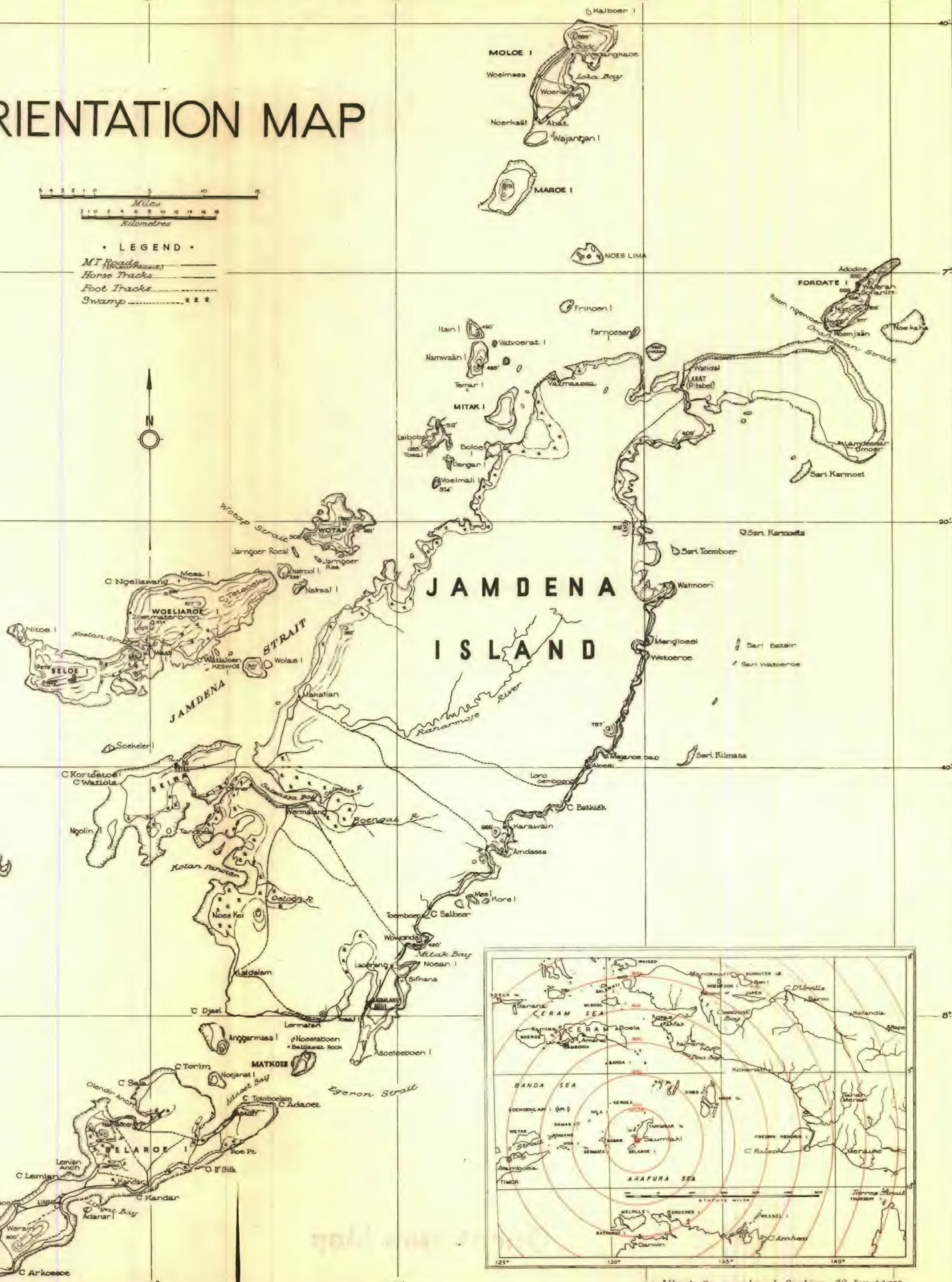
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ORIENTATION MAP



• LEGEND •

- MT Roads (thick line)
- Horse Tracks (dashed line)
- Foot Tracks (dotted line)
- Swamp (wavy line)



AREA STUDY
OF
TANIMBAR ISLANDS
Netherlands East Indies
(Revised)

PART I: GEOGRAPHICAL INFORMATION

SECTION I—INTRODUCTION AND GENERAL DESCRIPTION

1. Location (See Orientation Map):

The Tanimbar Group, or Timor Laoet Archipelago, is a group of islands lying approx between latitudes $6^{\circ} 40' S$ and $8^{\circ} 20' S$ and longitudes $130^{\circ} 40' E$ and $132^{\circ} 00' E$. The group is located at the eastern end of the Banda Sea 300 statute miles north of Darwin.

2. Historical:

Tanimbar Islands were discovered by the Dutch in 1629, and were annexed at that time. In 1645 a treaty was signed with the native chiefs, a garrison was placed on the islands and Protestant missionaries landed. The Dutch East India Company later abandoned the group on account of the ferocity of the natives and the small profits. In 1823, and at irregular intervals thereafter, Tanimbar was visited by Dutch officials from Ambon, and in 1882 a regular administrative post was established, first at Alilit and later at Saumlaki.

About 0330 hours on 30 Jul 42 the small garrison at Saumlaki, consisting of 13 native soldiers and 23 military police under Sergeant Tahija, learned that two Japanese warships were anchoring in the bay opposite the jetty. The alarm was given, but, after a gallant defence by the small number of soldiers and police, the town was captured by the Japanese.

3. General Description:

The Tanimbar Group comprises the comparatively large island of Jamdena, 70 miles in length with a maximum width of 25 miles, partially surrounded on the west, north and south by 65 small islands, islets and coral atolls. Only the eastern coast of Jamdena is comparatively open and free from obstruction, but even here there are wide fringing reefs along the shores, and some offshore shoals and patches.

All the islands are surrounded by fringing reefs.

The western coast of Jamdena is generally low and swampy, and the fringing reef wider than on the east coast. The centre of the island is covered by a plateau sloping down to the west and averaging 300 feet elevation, mostly covered by rain forest. Round this central plateau is a belt of undulating country which reaches the coast on the east along practically its whole length, with a few higher hills near the coast, the highest being about 800 feet high.

The islands to the north are steep and rugged, but there are no hills higher than about 900 feet. The highest peak (1283ft) in the group is on Laibobar Island.

There are flat areas on Selaroe, Seira and Larat Islands.

There are no lakes, and only one river of any size, but considerable areas of swamp are found along the western and northern parts of Jamdena Island, and on Selaroe Island.

The river mentioned above is Ranarmoje River, sometimes called Soengai Makatian, which, rising in the plateau some 10 miles due west of Watmoeri (on the east coast of Jamdena Island), crosses the island in a general SW direction and discharges into the sea about $2\frac{1}{2}$ miles south of Makatian village, on the west coast.

The Tanimbar Islands were originally covered with tropical rain forest, which, however, becomes more open and scrubby in the south, where there are areas which incline toward savannah. This is especially the case with the Saumlaki Peninsula and Selaroe Island, but this may be due to the land having been used in the past as *ladangs* (native gardens—See Appendix "C").

Population of the Tanimbar Group, numbering some 35,000, is scattered along the coasts of the larger and some of the smaller islands. The interiors are not inhabited, and even the shores of many of the smaller islands and islets are uncultivated and deserted. Villages are usually built on or near the beaches, and most of them have a central church, a school, and often a football field. A large percentage of the population is Christian.

The main port and administration centre is Saumlaki, on a splendid harbour at the southern end of Jamdena Island. Royal Mail Steamships (KPM) made regular calls at Saumlaki, and also at Larat in the north, and Adaoet on Selaroe Island in the south. Both these places are mere villages, and have now been almost totally destroyed or removed.

Selaroe Island assumes major importance in the group because of the Japanese-constructed airfield, roads and defences.

4. Spelling:

Throughout the Netherlands East Indies the spelling of native words is uniform, but differs in certain respects from various methods in use elsewhere. As the Dutch system, once learned, is less liable to mispronunciation by Europeans, and is used on all Dutch maps and charts, it has been adopted in this Study.

Saumlaki.—Official Netherlands spelling is SAUMLAKKI. However, Saumlaki has been used throughout this Study to conform to the Dutch charts and common usage.

A glossary of Dutch, Malay and native words for geographical features, together with their English equivalents and abbreviations, is included as Appendix "C" in this Study.

5. Standard Time: Measurements:

Standard time of the Tanimbar Group is that of the 135th eastern meridian, i.e., nine hours ahead of Greenwich.

The metric system was in standard use in the Netherlands East Indies. For the purpose of this Study, however, the British system is used for all measurements other than depths, which are shown in metres to correspond with the Dutch charts (Maps 7 and 8). Graphic scales are included with the text.

6. Currency:

See Sec XVI—Sub-sec 9.

7. Magnetic Variation:

By calculation from British Admiralty Chart No. 2759A, which gives the magnetic variation curves for the year 1937, the magnetic variation at Tanimbar Islands for 1944 is 4° 39' E, increasing about 4' annually.

Australian Aeronautical Map, Sheet B6 (dated Jun 43) and Sheet C6 (revised Dec 43) show that for 1942 the magnetic variation at the islands was 3° 30' E, and nearly stationary in the northern half of the group, but increasing about 1' annually in the southern half.

8. Water:

During the rainy season the supply of water is plentiful. In the dry season water in many villages is obtained from shallow wells on the shore side of the sandy beaches. In such locations it may be slightly brackish, but is usually potable. Wells should not be too deep, as the best water is near the surface. All water should be treated.

• TACTICAL LEGEND •

Operational Airfields ○
Possible Airfield Sites □
Possible Seaplane Landing Areas □
Landing Beaches ○
Paratroop Dropping Zones ○



JAM DENA ISLAND

MAP 1

9. Maps and Charts:

The Netherlands Admiralty has issued the following charts: Nos. 382, 383 and 408 (all reproduced by the Hydrographic Branch of the RAN). These charts embody the latest hydrographic information.

The British Admiralty has issued the following charts: 942B, 3243 and 2465 (anchorage), which, however, have not been included in this Study because they are based on old Netherlands charts, and do not exactly agree with current Netherlands charts.

The positions of the villages of Sifnana and Laoerang, on Saumlaki Peninsula, are inaccurately marked on the Netherlands Chart No. 382, and the village of Inge, in Mitak Bay, is erroneously spelt Inge on this chart.

Neither Mitak Bay nor Adaoet Bay is named on the charts. Mitak Bay is entered just north of Noean Island, off the SE coast of Jamdena Island. Adaoet Bay is entered westward of Cape Totoboelain, on the north coast of Selaroe Island.

The Australian Survey Corps at the beginning of Jun 44 issued maps of Selaroe Island compiled from aerial photographs up to 7 Mar 44, and charts. These maps are to a scale of one inch to the mile, and consist of two sheets, Selaroe Island West and Selaroe Island East. Copies of these maps are appended (Maps 9 and 10).

SECTION II—AREAS OF MILITARY IMPORTANCE

1. Military Importance:

The Tanimbar Group contains an operational airfield, and is the closest enemy-occupied territory to Darwin. It constitutes a link in the enemy chain of airfields stretching across the Banda Sea.

The following extract is taken from Allied Air Force Intelligence Summary No. 188, dated 8 Mar 44:

"Tanimbar Islands possess useful anchorages and seaplane alighting areas. It appears that the main function of Selaroe aerodrome, in addition to the fact that it might prove a useful ELG for enemy airplanes returning from an attack on Darwin, is to provide air cover for these anchorages and alighting areas, and against Allied attacks on the Kai and Aroe Islands. However, on account of the vulnerability of these islands, it is thought unlikely that the enemy will develop further aerodromes here, although suitable sites for this purpose exist."

2. Localities of Particular Significance (See Map 1):

a. SAUMLAKI BAY:

An excellent harbour, well protected in all seasons. Sufficient space for several cruisers and accompanying destroyers.

b. SELAROE AIRFIELD:

Comprising one strip 5500 feet long.

c. Possible Airfield Sites:

- i. Selaroe Island.
- ii. The southern part of Jamdena Island.
- iii. Seira Island.
- iv. Matkoes Island.

d. Possible Seaplane Bases:

- i. Saumlaki Bay.
- ii. Adaoet Bay.
- iii. Jamdena Strait.
- iv. Ritabel Bay.

3. Military Development:

The principal enemy development has been on Selaroe Island. It contains the only operational airfield in the group. The roads leading to the airfield have been improved sufficiently for use by light MT. The island has been fortified by gun emplacements and trenches in several places, including two 4-gun heavy A/A batteries and some light A/A at the airfield. Possible Radar installations have been reported one mile from the southern tip of the island.

Apart from Selaroe Island, development has been limited to dumps and defences at Saumlaki and Alilit and possible light A/A defence at Larat and Itain Island. Also short MT tracks have been made from Saumlaki to Alilit and Laoerang on the east coast of Jamdena Island, and there is evidence of the use of MT on Larat Island.

At 30 Jun 44 the estimated number of Japanese troops in the Tanimbar Group was 3,000.

4. Potential Development:

a. SAUMLAKI BAY:

This harbour could be more fully developed by the erection of another jetty and installations.

b. ADAOET BAY:

Adequate installations and the construction of a MT road to the airfield (possibly completed, see Sec XII) would facilitate the handling of supplies.

c. Airfields:

Apart from the existing airfield on Selaroe Island, areas are available for airfield construction (see Sec XI).

d. Seaplane Bases:

There are five sites suitable as alighting areas (see Sec XI).

5. General:

a. Approaches:

The approaches are wholly by sea. Generally the group can be approached through a clear sea from any direction, but care is needed when approaching the 200-metre (approx 100 fathoms) line around the group on account of the many reefs and shoals lying inside that line (see Sec III, Sub-sec 1).

b. Movement:

Except for Selaroe Island and the southern part of the island of Jamdena, the dense forest greatly restricts the movement of troops except in small parties.

c. Weather:

A haze, worst between July and October, may reduce visibility to less than six miles during the SE monsoon.

The NW season is the more cloudy, and during that time cloudiness is greater in the daytime (see Sec XX, Sub-sec 5).

6. Table of Distances (From Saumlaki):

| <i>Enemy Bases</i> | <i>Geog Miles</i> | <i>Statute Miles</i> | <i>Allied Bases</i> | <i>Geog Miles</i> | <i>Statute Miles</i> |
|---------------------|-----------------------|--------------------------|---------------------|-----------------------|--------------------------|
| Ambon | 366 | 318 | Hollandia | 752 | 654 |
| Dilli (Timor) . . . | 402 | 350 | Merauke | 621 | 540 |
| Dobo (Aroe I) . . | 253 | 220 | Darwin | 300 | 260 |
| Jefman I | 483 | 420 | Horn I | 775 | 674 |
| Kendari | 665 | 578 | | | |
| Rabaul | 1486 | 1275 | | | |

SECTION III—OFFSHORE CONDITIONS

1. Reefs and Depths (See Map 7):

Inside the 200-metre line surrounding the islands there are many dangers in the form of reefs and shoals, and care is needed in navigation. Caution is more necessary owing to discolourations often appearing in deep water which are mistaken for reefs. Off the west coast of Jamdena and Selaroe Islands the reefs discolour very little. The position of the vessel should always be controlled by fixes, and no reliance should be placed on discolouration of reefs unless it is expressly advised.

The eastern coast of Jamdena is comparatively free from dangers and can be approached more closely. Approach to the various anchorages and landing beaches is given throughout the detailed description in Secs IV-VI.

2. Winds (See also Sec XX):

The prevailing winds are seasonal in character. The NW monsoon blows from November till March or April, being occasionally interrupted by strong SW winds, and less frequently by north winds and calm periods. The SE monsoon which blows from April to October or November is steadier, and its velocity is more uniform than is the case with the west monsoon.

Tropical cyclones very occasionally occur, usually during the month of April.

Rain squalls, occurring usually in the afternoon, are fairly frequent, and can be expected mostly in the NW monsoon. They are usually of short duration and are local.

The unprotected eastern side of the islands is greatly affected by the SE monsoon, and landings on any open stretch there would be almost impossible during that season.

The off-lying islands on the western side of Jamdena give some protection during the NW season, but the approach to these sheltered areas is naturally more hazardous owing to the swell which quickly develops.

The winds of the SE monsoon are of sufficient strength and regularity to cause vessels running from Larat to Saumlaki to prefer the western coast of Jamdena between June and September, whereas during the remainder of the year they follow the somewhat shorter route along the eastern coast.

3. Currents:

Regional surface currents in the neighbourhood of Tanimbar run slowly in the direction of the prevailing monsoon. They therefore change direction every six months.

Tidal currents occur in Egeron Strait (between Selaroe and Jamdena), in Jamdena Strait, and between Larat and Fordate Islands. In the latter location they may attain a velocity of $2\frac{1}{2}$ -3 knots and constitute something of a navigational hazard during the SE monsoon.

4. Tides:

Tide constants were computed at Larat (Ritabel), and the following particulars have been obtained from "*Sailing Directions for the Netherlands East Indies Archipelago*," Part III, issued by the Netherlands Admiralty. (Note: Times mentioned hereunder are local times, i.e., GMT plus nine hours.)

Tides are mixed; semi-diurnal dominant.

a. Semi-diurnal Tides:

Spring tides, 2 x 24 hours after full moon and new moon,
average range 1.5 metres.

Neap tides, 2 x 24 hours after quarter moons,
average range 0.9 metres.

HW Springs at 0330 hours and 1530 hours

LW Springs at 0930 hours and 2130 hours

From six days before till six days after Spring tides, every day 45 minutes later. At Neap six hours later than at Spring.

b. *Diurnal Tides:*

Spring tides, 12 hours after moon's greatest declination,
average range 0.8 metres.

Neap tides, 12 hours after moon's declination—0°,
average range 0.1 metres.

HW—1 Jan at 2130 hours, 1 Jul 0930 hours;
every week 30 minutes earlier.

LW—1 Jan at 0930 hours, 1 Jul 2130 hours;
every week 30 minutes earlier.

Neither the Spring HW nor the Spring LW of both tides can coincide. The lowest water level can be expected about August at 2130 hours and about February at 0930 hours (Semi-diurnal Spring tides), when the water level is on an average about 1.1 metres below mean level. The highest water level can be expected about March-April at 1530 hours and about October-November at 0330 hours (Semi-diurnal Spring tides), when the water level is on an average about 0.9 metres above mean level.

5. *Charts:*

The whole group and adjacent waters have been covered by fairly recent hydrographic surveys, and the published Dutch Chart No. 382 (Map 7) covers the area on a suitable scale, while Dutch Chart No. 383 (Map 8) gives detailed plans of important areas. Courses may be laid with confidence from these charts. The datum to which soundings in the above charts are reduced is low water of Spring tides. The mean level lies 1.30 metres above the datum.

SECTIONS IV-VI—ANCHORAGES AND DETAILED
DESCRIPTION

PART A—SELAROE ISLAND

This Part includes the large island of Selaroe and the small islands to the northward in Egeron Strait. The remainder of the Tanimbar Group is described in Part B.

General Description:

Lying about 12 miles SW of Saumlaki (main port of the Tanimbar Group), Selaroe Island is approx 33 miles by seven miles, and is the southernmost island of the group. Militarily it is the most important island in the group because of the Japanese-constructed airfield, defences and roads (see Sec XI A, XII).

Surrounded by a wide coral reef, the island is generally of low elevation and the vegetation is mainly scattered trees and open grass patches.

Of the eight villages on the island only Namtaboeng, and possibly Boelat, now remain intact. The remainder have been either destroyed or removed except for one or two houses. It is presumed that the houses have been erected in more sheltered places and have been scattered.

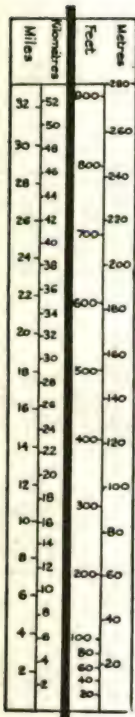
Anchorages:

There are three anchorages around the island.

i. **LEMIAN ANCHORAGE:** In a small bay on the west coast 12 miles NE of the SW extremity of the island. The depth is 14 metres (seven fathoms) two miles offshore, and inside a break in the reef about 600 yards wide. The anchorage is exposed to the NW monsoon and could not be used in that season.

ii. **OLENDIR ANCHORAGE:** There is anchorage in 13-14 metres (seven fathoms) in a bay about five miles SW of the northern tip of Selaroe. The entrance is about half a mile wide and is approached from northward. The anchorage is sheltered from the SE monsoon and also from westerly and SW winds.

iii. **ADAOET BAY:** The bay lies on the southern side of Egeron Strait and some 18 miles SW of Saumlaki. Egeron Strait is clear and presents no difficulties either from the east or the west or from Saumlaki. The route from the latter is usually between Matkoes Island and Battjawat Rock. Care should be taken, when nearing the reef round Noejanat Island, of the strong tides during the springs.



Vessels of the KPM called regularly at Adaoet village on the eastern side of the bay near the entrance. There is a stone jetty close northward of the village. The usual anchorage is close off this jetty, but sheltered anchorage could be had throughout the length of the bay, in depths of 12-22 metres (6½ to 12 fathoms). Depths alongside the jetty formerly permitted only small boats, but a 60ft floating extension has been added, bringing it into deep water to facilitate loading and unloading of large ships.

Shore (Photos 3-12) :

From Cape Aro Oesoe (SW tip of island) northward along the west coast are several good beaches with gently rising ground immediately behind. The beaches are separated by steep bluffs at several small headlands, and they are inaccessible owing to the fringing reef, which varies from 1000 yards to a mile wide, and the off-lying shoals. Werain village is on a small flat, triangular in shape, with low banks behind it.

The only suitable place for a landing along this western coast is in Lemian Anchorage, where there is a break in the reef. Northward from Lemian Anchorage the coast rises steeply to form the hill just SW of Olendir Anchorage. The northern portion of the island is densely wooded and uninhabited. The beach, about one mile SE of Cape Torim, the most northerly point of the island, is probably suitable for a landing, but the hinterland does not justify its use.

Adaoet Bay has swampy shores except on its eastern side near Adaoet village, where there is a possible landing beach. There are also beaches around the head of the peninsula to Cape Adaoet, where there are low bluffs which give way to steep cliffs a mile farther south; these cliffs continue for 3½ miles, where sago swamp is encountered.

At Roe Point and a mile NW, cliffs are again found, but to the SE of the point the reef widens in front of low bluffs until three miles farther on at Cape If Sifa swampy country commences again.

Stretching for one mile SW of Kandar village there is a sandy beach, the reef is wide and the water shallow, but Japanese activity and defence trenches in the area point to its being a possible landing place. Cape Kandar forms the NE extremity of Lingat Bay, which has a continuous sandy beach stretching almost to Adanar Point, its SW extremity. This beach is described fully under "*Landing Beaches*" below.

The remainder of the coastline SW to Cape Aro Oesoe consists of cliffs and low bluffs except for a sandy beach about 1½ miles long beginning 1¼ miles SW of Taftian Point and another adjoining a strip of flat ground between Foersoei village and Cape Arkoesoe. The reef here is too wide to permit landing.

Landing Beaches:

Beach i—LEMIAN ANCHORAGE (Laboean Lemian) (Map 9, Photos 1 and 6) : The shore inside this bay on the west coast of Selaroe Island is fringed with coral reef, and has a narrow sandy beach extending to the edge of the marshy ground about the mouth of North Kerval (Kewal) River. At the narrowest part of the neck of land between Lemian Anchorage and Lingat Bay there appears, from photographs, to be a break in the reef about 600 yards wide leaving a clear approach to the beach at this point.

The western end of this break appears to be opposite the point where the coastal road to Lingat turns inland. Tracks have been found from this beach to the woods, 200 to 300 yards inland, and this indicates that the enemy probably uses the beach for landing stores during the SE monsoon, when Lingat Bay would be too dangerous for the purpose. Even at LW landing craft can come to within 15 yards of the beach.

This beach could not be used during the NW monsoon.

The terrain on the neck of land is flat grass country with scattered trees right across to Lingat Bay; higher ground covered with scattered trees lies some two miles to the west of the western extremity of the beach. The terrain east of the road which runs across the neck to Lingat Bay is more wooded, with patches of scattered trees near the road, and rain forest farther east. Water supply is fairly scarce. There are shallow wells at Lingat, and these have never been known to fail, even in the dry season. The water table lies about three feet below ground level at Lingat.

Beach ii—ADAOET BAY (Map 10, Photos 2 and 8): North coast of Adaoet Peninsula, east of Cape Totoboelain, contains small sandy beaches. Although the fringing coral reef is narrow, there are rocks offshore and the coastline is cliffy at several points. The set of the swell and current is at right angles to this part of the coast, so that landings would usually be difficult.

A narrow sandy beach, about 1000 yards long, is located 800 yards NE of Adaoet and runs NE to Cape Totoboelain. Rocky cliffs about 30 feet high rise immediately behind the narrow beach. This beach contains numerous rocks which have been broken off the cliffs.

Just NE of Cape Totoboelain seas break on fringing coral reef some 250 yards offshore. The swell and current run east and west through Egeron Strait according to season, but Cape Totoboelain gives fair protection during the SE monsoon. During the NW monsoon, however, there is usually a swell on this beach, though the islands of Noejanat and Anggarmasa give some protection. The coral reef dries at LW springs. The terrain on top of the cliffs behind this beach is fairly open with scattered trees and patches of former garden areas.

Recent information indicates that the enemy has constructed many gun emplacements along the coast from Cape Adaoet to Cape Totoboelain and southward to the jetty at Adaoet. There is an observation post near the foot of the jetty.

A trail runs parallel to and within 100 yards of the beach and leads from Adaoet village to Cape Adaoet. Other trails run farther inland. Eastward of the northern extremity of the beach the terrain along the north coast is more broken and heavily timbered. The village of Adaoet lies south of the southern extremity of the beach. The village itself is practically deserted and the houses dismantled for their building materials. There is a swamp just south of the village and the terrain round this swamp is well timbered.

There is a good sandy beach about 1000 yards long running SW from Adaoet village, but the reef here is about 400 yards wide and dries at LW. It is probably for this reason that the enemy has lengthened the jetty at Adaoet by about 60 feet so that it now completely crosses the fringing reef.

The terrain behind this beach is fairly heavily timbered, and a road runs parallel to and 50 yards from the beach. Opposite the middle of the beach the road crosses a creek by a bridge. This bridge is defended by pillboxes. This road connects Adaoet with Kandar on the east coast, but, prior to the evacuation, this road narrowed and became a trail some $2\frac{1}{2}$ miles SW of Adaoet. It is believed that it has now been improved sufficiently to take MT traffic.

Immediately inland of this road there is a swamp which runs southwards from the southern end of the village for 800 yards. This swamp is fed by a network of watercourses which run approx NW into the southern end of the swamp. These watercourses are practically dry in the dry season.

This beach is probably the best in Adaoet Bay, but landing craft could only use it at HW springs. The nature of the terrain, as described above, limits an attack on the village to a front of about 200 yards (between the beach and the swamp, which, near the village, could be better described as a lake). The beach itself would be exposed to enfilade fire from the jetty and the shore between the foot of the jetty and the village. Recent information indicates that the enemy has constructed defence positions from the bridge, which is defended by pillboxes (see above) to the southern extremity of the village.

Beach iii—LINGAT BAY (Map 9, Photo 1): Lingat Bay forms the southern coast of the narrow neck of land referred to in the description of Beach No. i above. A sand beach commences at a point 1000 yards westward of Adanar Point and continues around the head of the bay almost to its western extremity. There is a lagoon one mile NE of Lingat village, which masks the hinterland for a distance of about $1\frac{1}{2}$ miles.

The whole bay is reef-bound. There is a small island, Adanar, in the middle of the bay with shoal depths between it and the beach at Lingat. To the eastward of Adanar Island there is a channel, navigable by small craft, leading to a deep pool which is shown in the Dutch Chart No. 382 as carrying a depth of 13 metres (seven fathoms). The small Dutch Government schooners (police boats) used this pool as an

anchorage. North of this pool and three miles ENE of Lingat there is a sandy beach with trails leading from it to the woods inland.

It is reported that the deep water in the pool mentioned above comes within 800 yards of this beach, and the trails probably indicate that the enemy has used this beach for the landing of stores during the NW monsoon. A company of Japanese was said to be located in the woods eastward of this beach.

The terrain immediately behind the beach is flat and covered with forest. The road runs about 130 yards from the beach in a sparsely wooded strip parallel to the beach. Behind this there is another belt of forest, and beyond is a sparsely wooded area, then another and deeper patch of forest, which runs northward to within 200-300 yards of the beach at Lemian Anchorage (Beach i above). As regards the supply of fresh water, see under Beach i above.

The seaward approach to this beach from southward presents no difficulty. Clear deep water exists up to half a mile from the south coast at the western end of Selaroe, with only one shoal 10 metres ($5\frac{1}{2}$ fathoms) lying $1\frac{1}{2}$ miles from shore and bearing 076° distant three miles from Foersoei village.

The direct sea approach to Lingat Bay from the SE is clear and unobstructed except for a nine-metre ($4\frac{1}{2}$ fathoms) patch bearing 137° distance five miles from Adanar Island, and another nine-metre ($4\frac{1}{2}$ fathoms) patch bearing 103° distance $7\frac{1}{2}$ miles from Adanar Island.

Hinterland:

The southern end of Selaroe Island comprises a ridge with its highest point slightly over 300 feet. From the west coast there is first a steep bank about 25 feet high, then there is a gradual slope for about two miles, after which the country rises steeply in small terraces to the top of the ridge. The eastern side of the ridge is a smooth slope. Vegetation comprises scattered trees with some small patches of rain forest.

Farther to the NE, in the vicinity of the airfield, the country becomes low and slightly undulating, with the highest parts half a mile south of Cape Lemian and one mile north of Lingat village.

North and east of the narrowest part of the island the terrain continues low and slightly undulating except for a hill about 50 feet high just south of Olendir Anchorage. The vegetation here and at the north of the island is rain forest, but to the east there is light scrub and scattered trees with several patches of sago swamp and many native gardens, including small patches of coconuts.

Possible Airfield Sites (See Photo 1):

The neck of land between Lingat Bay and Lemian Anchorage on Selaroe Island is quite flat. The ground here is sandy over old coral and covered with grass and scattered trees, and would allow of a NW/SE runway with a maximum length of 5500 feet.

Other sites can be found in this neighbourhood, and near the Selaroe strip to the SW, but the direction of the runways on such sites would be across the prevailing winds.

(For details see Sec XI A, Sub-sec 2.)

Paratroop Dropping Zones:

i. LINGAT (Photo 1):

The neck of land between Lemian Anchorage and Lingat Bay is flat and sparsely covered with trees. This area is bounded on the west by a line running due north from the centre of the lagoon at Lingat Bay. On the east it is bounded by the road running NE across the neck from Lingat Bay to Lemian Anchorage, although nearer the shores of Lemian Anchorage there is open grassland for about 600 yards east of the road.

The area from 200 yards south of Selaroe airstrip and north of the strip to the coast is also flat and open, with scattered palm trees.

South of the belt of forest which contains the storage and personnel area of the airstrip there is a large open area of undulating terrain which rises to the ridge north of Foersoei village. This ridge is bare, but there is a belt of rain forest running east and west at its northern end, between it and the undulating terrain south of the airstrip.

Water supply is probably scarce on all three areas, but the ridge described in the previous paragraph has many scattered native huts on it, and drinking water must therefore be obtainable in the neighbourhood, as well as in the village of Foersoei.

Recent information indicates that the coast from Adanar Point round the peninsula to Werain village on the west coast has been prepared for defence by the construction of gun positions, pillboxes and trenches. Adanar Island is said to contain four coastal guns in concrete emplacements.

ii. **ADAOET PENINSULA (Photo 2) :**

On the peninsula are three areas of grassland with sparse trees, which could be used as landing areas.

The first lies due eastward of Adaoet village, and runs parallel with the north coast and about three-quarters of a mile from it. This area, commencing just east of the foot of the jetty, has native gardens and a few trees on it for about 500 yards, then for about 1000 yards it is more wooded, beyond which, still to the eastward, there is an open area of over a mile east to west and three-quarters of a mile wide which ends in dense rain forest about the east coast.

The second possible landing area lies along the east coast, SE of Adaoet, distant two miles. This area runs SW/NE for $1\frac{1}{4}$ miles with a breadth of 1500 yards.

The third area of grassland lies halfway between the shore of Adaoet Bay and the east coast, and is SW of Adaoet, two miles distant. This area also runs SW/NE, and is one mile long with a general width of 300-500 yards. This area has more scattered trees on it than the area described immediately above.

Possible Seaplane Alighting Areas:

Adaoet Bay has at times been suggested as a possible seaplane alighting area. However, the Dutch found it unsuitable. The surrounding terrain is not high enough to protect the bay from the prevailing winds, also the bay is too narrow in a NW/SE direction except near the mouth, where there is considerable swell at times in both monsoons.

Tracks:

Photographs reveal that the Japanese have improved many tracks for use by MT. One such track runs from Eliase village, at the SW of the island, to Werain, on the west coast, and continues along the coast, turning inland at Cape Toewaoe past the airfield and crossing the island to Lingat village. From Lingat it continues along the coast to Kandar village. A branch track crosses the narrow neck of the island to Lemian Anchorage.

From Kandar tracks (passable for MT) run north for about three miles, ending near the source of North Kerval River. It is believed that a foottrack continues from one of the tracks to Namtaboeng village on the southern shore of Olendir Anchorage.

Another MT track runs in the direction of Adaoet village, and, although photo coverage is not sufficient to confirm it, it is probable that the whole of the distance to Adaoet has now been improved for MT.

In addition to the improved tracks, there are many trails connecting all the villages on the island. These trails run across the island as well as along the coast.

Water:

During the rainy season there is an abundance of water. In the dry season it is obtained at most villages from shallow wells on the shore side of the sandy beaches. Wells should not be deep as the best water is near the surface.

Noejanat Island— $8^{\circ} 06' S$, $131^{\circ} 5' 30'' E$ (Map 10, Photo 18) :

A small, low island lying at the west of the entrance to Adaoet Bay and $3\frac{1}{2}$ miles NW of Adaoet village.

It is surrounded by a wide coral reef fringing a sandy beach, and is covered with coconuts except for patches of rain forest in the northern half.

Anggarmasa Island— $8^{\circ} 03' S$, $131^{\circ} 06' E$ (Map 10, Photo 18) :

Anchorage:

Good anchorage can be had on the eastern and western sides of the island according to season. One good site is in 17 metres (nine fathoms) off the NE side of the island, in the strait between Anggarmasa and Jamdena Islands.

Shore:

The island is surrounded by a reef over one mile wide on the western side, but narrow on the north and SE coasts. On the south and east of the island, where the sides of a hill form the coast, there is a narrow beach with rocky cliffs containing many caves. Two rocky islets one mile west of the northern tip of the island can be reached on foot during LW.

Landing Beaches:

There is a good sand beach about halfway down the east coast, just north of the hill which occupies the whole of the southern half of the island. This beach is about 10 yards wide and 300 yards long. North and south of it the water over the fringing coral reef is shallower. The reef opposite the beach does not dry at LW, but there is insufficient water over it for landing craft. It can therefore be used only for craft drawing 3½ feet at HW springs. It is exposed during the SE monsoon, when the only beach which could be used is a much shorter one on the west coast just north of the widest part of the island. The reef is wide here, and there are underwater hazards which, however, can usually be seen as the water is very clear. The reef does not dry at LW, but landings can only be made with safety at HW springs.

Hinterland:

The island is flat, except for the hill at the southern end. This hill is 378 feet high, covered at the top by a patch of alang-alang, and scrub on the slopes. The northern half of the island is covered with secondary growth and patches of *ladang*, with patches of coconuts on the east and west coasts, and at the NE tip of the island.

Possible Airfield Sites:

A site suitable for an airstrip approx 4500 feet long stretches east/west near the centre of the island, just north of the foot of the hill. Material for surfacing can be obtained in unlimited quantities from the hill, which consists mostly of rock. (For details see Sec XI A, Sub-sec 2d.)

Water and Tracks:

Water is not plentiful. A small shallow pool or old well at the coconut trees at the NE tip of the island contains brackish water. Better water is available from a well near the beach at the eastern side of the island. A path leads to this well from the small beach on the west coast. It crosses the top of the hill and descends the slope on the NE side where the well is located. The path divides and both branches continue to the old well at the NE tip of the island, one branch running inland, and the other along the coast.

Matkoes Island—8° 03' S, 131° 12' E (Map 10, Photo 18):

Anchorage:

Large vessels can select anchorage in Egeron Strait anywhere around the island according to season and the condition of the sea. Only small vessels can reach the shore.

Coast:

There is a gradually shelving beach almost all around the island, but it is fringed on the east, west and NW coasts with wide coral reefs. Along the short north coast, and at the southern point the reef is much narrower. A small jetty is located at the northern end opposite a few coolie huts.

Landing Beaches:

The beach at the northern end of the island could be used, but only for a short period before and after HW springs for craft drawing 3ft 6in. At LW there is about three feet of water at the head of the jetty, but the reef is somewhat higher at its outer edge and forms a bar. Westward of the jetty the reef dries to its edge at LW. There is likely to be a certain amount of swell on this beach in both monsoons, although the NE point gives some protection during the SE monsoon.

Hinterland:

Most of the northern half and three-quarters of the west coast are covered with a coconut plantation, through which there are two paths running parallel with the east and west coasts respectively. Other paths connect these with the jetty and with the southern part of the island. The rest of the island is covered with secondary growth in which are several *ladang* patches. There is a hill running south from near the foot of the jetty. This hill is covered with scattered trees. There is another hill in the secondary growth on the SE quarter of the island.

Possible Airfield Sites:

Dutch had planned to construct two runways running east and west across the island in the saddle between the two hills. These runways formed a narrow X and were to be approx 4800 feet and 4500 feet long respectively, with a width of 600 feet. The surface was to be of coral sand, which, however, is apt to blow away in the dry season, but remains hard and drains well in the wet season. Construction work stopped in Dec 41, after all the coconut trees had been felled and cleared on the longer of the two runways and most of the grading had been completed. (For further details see Sec XI A, Sub-sec 2c.)

Water:

Shallow wells, mostly near the southern tip of the island, furnished water of fair quality. In Nov 41, when the Dutch had about 3000 coolies working on the runways, the supply of water from these wells was sufficient for drinking purposes. The water table is about six feet below ground level.

Noestaboen Island and Battjawat Rock are situated on a reef $1\frac{1}{2}$ miles NW of Matkoes Island. They are uninhabited and have no military importance.

SECTIONS IV-VI—ANCHORAGES AND DETAILED DESCRIPTION

PART B—JAMDENA AND SURROUNDING ISLANDS

This Part includes the whole of the Tanimbar Group, except Selaroe Island and the small islands in Egeron Strait which are described in Part A.

The coast of Jamdena has been divided into numbered coastal sections which are described in detail, together with the islands immediately adjacent.

1. Mitak Bay to Saumlaki Bay (Maps 6 and 11):

Anchorage:

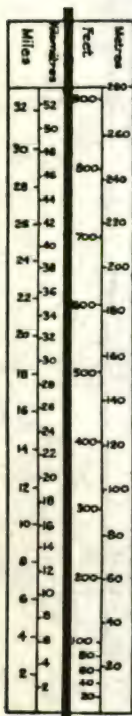
Saumlaki Bay provides the best anchorage in the Tanimbar Group. There is a splendid harbour the whole year round in depths of 24-58 metres (13-30 fathoms), the usual anchorage being 325 yards off the end of the pier in 29 metres (15 fathoms).

Approaches to Saumlaki Bay are clear, but wide reefs fringe the coastline. Approach to the bay can be made from the east by the eastern entrance of Egeron Strait or from the west through that strait, either north or south of Anggarmasa Island, thence to between Battjawat Rock and Matkoes Island, or to the south of Matkoes Island.

The passage between Noestaboen Island and the south coast of Jamdena should be avoided by large vessels because of foul and shallow waters off the north point of Noestaboen. There is seldom any discolouration over the six-metre (three fathoms) bank at this spot.

Tides are strong in the passages between these islands, attaining a velocity of two knots and sometimes over. Tide rips occur which, in heavy weather, embarrass small craft.

The inner part of Mitak Bay is not suitable for large vessels, but excellent anchorage is found for one or two ships up to 200 tons. During the SE season heavy swells break on the northern shores of the bay, but off the village of Laoerang and its fine white sandy beach, protected anchorage in two to eight metres can be found by going inshore.



It is possible that large vessels could anchor off the coast at Alilit during the NW monsoon, and that sloops and launches could find passage through a reef gap to an inside anchorage.

[NOTE: Dutch Chart No. 382 erroneously places Laoerang at the head of the next bay south of Mitak Bay. That position is occupied by the village of Sifnana, which the Dutch chart erroneously places $2\frac{1}{2}$ miles farther south. The village of Inge is spelt Inge on the Dutch chart.]

Shore:

From the cape forming the northern extremity of Mitak Bay westward to Wowonda the shore is rocky and backed by low bluffs. Wowonda itself is on a bold bluff westward of which is a sandy beach broken by a muddy patch just south of Kabiarat village, and then widening to a suitable landing place opposite Laoerang. South of Mitak Bay there are low bluffs with occasional small beaches.

The high bank which forms the steep and rocky coast east of Alilit continues due west inland just north of the village. About 500 yards behind the village the bank bends southward and flattens out. Alilit therefore is practically surrounded on its northern and western sides by high ground, but there is a gap to the SW about 350 yards wide through which runs the road to Saumlaki. The whole terrain is well wooded.

Opposite Alilit village is a good beach about 350 yards long, which has a clear approach through a break in the reef, but farther south are underwater hazards and also a widening reef which makes the long beach unsuitable for landing.

Around the tip of the peninsula and inside Saumlaki Bay are low bluffs which continue to the town, where there is a beach about 100 yards long. The mission jetty was previously located here. Asoetoeboen Island lies on the continuation of the reef from Saumlaki Peninsula. It has a fringe of trees on the north and west, but is mostly covered with grass.

The head of Saumlaki Bay is low and fringed with mangrove at the mouth of Kesse River. The reef narrows opposite Lermatan, where there is a small beach. Saumlaki town is described in Sec XV.

Landing Beaches:

Beach i.—LAOERANG (Photo 14): Village of Laoerang, situated at the head of Mitak Bay, has a gently sloping beach which, however dries out for about 850 yards at LW springs. It can therefore be reached for only a short period at HW springs by landing craft drawing 3ft 6in. The rest of the coastline in this bay is fringed with reef, and the terrain adjacent to the shore is steep, so that enfilade fire can easily be directed at the beach by the defenders. There is a patch of mud extending from immediately south of Kabiarat village for a distance of about 700 yards southwards along the shore, and mangroves grow on this patch and along the shore past it to the northern tip of the village of Laoerang. The beach at Laoerang extends southwards of the village for several hundred yards. At the northern end and also about the middle of the beach the enemy has constructed M/G posts.

The bay is sheltered and calm during the NW monsoon. During the SE monsoon the bay itself is sheltered, but the approaches outside are exposed to SE weather.

The terrain immediately behind the beach is low and flat. It is covered with low timber, scrub, and patches of nipa and sago swamp. This flat country extends only a short distance from the beach, and the terrain then rises to the same height as the surrounding country.

Beach ii.—ALILIT (Photo 17): There is a good sandy beach at Alilit (sometimes called Oilit) village. This beach is about 350 yards long, and lies immediately opposite the village.

The church at the northern end of the village is easily recognised from the sea. There are underwater hazards immediately south of the beach. The coast eastwards of the village is about 100 feet high, very steep and rocky, with underwater hazards close to the beach which lies at its foot.

The fringing reef dries at LW. Seas break at the edge of the reef, but there is a gap over 500 yards wide opposite the village, where the reef carries a slightly greater depth of water. Landing craft drawing 3ft 6in could use the beach only at HW springs, but care must be taken to avoid the hazardous areas north and south of the beach, and the reef which suddenly widens to 1400 yards just south of the village.

Beach iii.—SAUMLAKI (Photo 16): There is a beach about 100 yards long running north and south of the previous site of the mission jetty, which was 250 yards south of the town jetty. The beach is sheltered all the year round, but there is a wide reef in front of it so that landing craft drawing 3ft 6in can reach it only at HW springs. The mission jetty has been destroyed or removed.

The beach is probably well defended, and enfilade fire can be brought to bear upon it from the headland which juts out between the beach and the town jetty, and from the jetty itself.

Hinterland:

The terrain is low, undulating and scrubby, with patches of alang-alang. A low, gently rounded hill lies behind Saumlaki town. It is just high enough to permit an observer standing on its summit to see over the nearby houses of the town and get a good view of the jetty and shoreline. Farther east behind the town is a low escarpment backed by limestone ridges which occupy the centre of the peninsula.

Immediately north of Saumlaki are native gardens which give way to dense forest finally merging into mangrove swamps at the head of the bay. West of Laoerang village are scattered native huts and plantations which provide a possible paratroop dropping zone. The cleared patch is shaped like an inverted T, the longest length north to south being about 1500 yards. The area is surrounded by trees which attain the nature of thick jungle farther west.

Possible Airfield Sites:

Photos of this area, taken in Nov 43, show what appears to be a survey line about 1000 yards long running due eastward from a point about 500 yards east of the Saumlaki-Laoerang road. Prolonged westward, this line would cut the road at a point $1\frac{1}{4}$ miles north of Saumlaki jetty. The terrain here appears to be suitable for the construction of an airstrip with a maximum length of 4800 feet E/W. There are a few trees and bushes on the site, but it should not be difficult to clear. (See Sec XI, Sub-sec 2b.)

Possible Seaplane Bases:

Saumlaki Bay offers a large area of water sheltered the whole year round, although occasionally during the SE monsoon a heavy ground swell entering the bay from Egeron Strait may prevent seaplanes from taking off. There is a mile of unobstructed water in any direction for alighting or taking off. (See Sec XI B, Sub-sec 2a.)

Tracks:

Tracks reported to be sufficiently improved by the Japanese to accommodate MT lead from Saumlaki to Laoerang and Alilit. The bridges on the track to Laoerang were formerly in bad repair, and it is not known whether they have been renewed. Northward from Laoerang the track continues along the coast, but is not well maintained. A footpath joins Alilit and Laoerang villages. From Ilng village on Mitak Bay a foot-track runs NW across the island to Wermatang at the head of Salwassa Bay, and from Lermatan another runs across the SW corner of the island to Latdalam village.

2. Saumlaki Bay to Noes Kei (Map 6):

Anchorage:

Vessels of the KPM used an anchorage off the village of Latdalam. Although the anchorage is one mile offshore it is very close to the reefs, and vessels are warned against attempting to approach closer. The anchorage is approached with the village ahead 190° and the anchor is let go when Cape Djasi bears 177° . Small vessels can find shelter from the SE monsoon in the small bay four miles south of Latdalam village.

Good anchorage can be found in 17 metres off the NE coast of the seldom-visited Anggarmasa Island, which is described in Part A of this Study.

Large vessels can approach this locality from the east through Egeron Strait, from the south, or from the west. Such vessels should work on Dutch Chart No. 382 (Map 7).

Shore:

From where the reef finishes on the south coast of Jamdena Island, westward to Cape Djasi, and for a few miles north of the cape, the coast is high and cliff-bound, with small sandy beaches in the coves. Farther north to Latdalam there is a good beach, but there are underwater hazards except right at the village. North of Latdalam the reef widens and the rocky shore is fringed with dense timber, in a few places there are coconuts. Noes Kei has a narrow sandy beach, but the reef, together with the off-lying rocks and low swampy hinterland, prevents it being used as a landing place.

Landing Places:

On the north shore of the small bay about one mile north of Cape Djasi (mentioned under *Anchorage*s in this Section) is an approach just below a village of about 10 huts. The village stands on a bank about 15 feet high, and 150 yards behind the beach. A track runs down from it to the beach. Farther inland is a wooded hill, but beyond this, north and NE of the village, large areas have been cleared for native gardens. On the south shore of the bay there is a small beach fringed with reef near the south headland. About 100 yards inland there is a steep bank with a mangrove-fringed creek running beside it and into the bay.

At Latdalam the small beach, about 125 yards long, could be reached at HW springs by landing craft drawing 3ft 6in of water. The 650-yard-wide reef opposite the beach is awash at LW. There is a stone dam to catch fish just north of the village. It is always under water.

The terrain adjoining the beach consists of a bank about 30 feet high covered with scrub and small trees. Across this bank there is a clearing leading to the village of Latdalam which lies about 100 yards inland. Behind the village the terrain is slightly hilly and covered with secondary growth and patches of *ladang*. South of the village the terrain is rocky. There is a path leading south from the village to two springs about one mile away, which give an abundant supply of good water. These springs rise in rocky pools under big trees and are used by the natives as bathing places. The overflow is carried by a small stream to the beach, which is about 300 yards from the springs.

Hinterland:

The terrain is generally flat, but does not appear swampy. On top of the cliffs running north and east of Cape Djasi there is a plateau bounded on the north by the small stream which discharges into the bay about one mile north of the cape. The whole plateau, which is nearly rectangular and about 1400 yards east to west by just over a mile north to south, has been cleared and planted with native gardens. There are several apparently new villages on it, one of which is fairly large and built in the shape of an L. There is a coconut plantation along the south and west coasts, with a patch of forest running roughly NE from the point. Just north of the cape is a long wooded depression, and a second, but much smaller one, NE of the first. A dry watercourse runs from the small to the large depression.

Noes Kei, six miles north of Latdalam, is low and swampy and covered with mangroves, through which run small streams. Inland is forest. On Noes Kei is a peculiar, slightly raised clearing; it shows up very white from any direction, and is probably an area of mud and perhaps coral. (See Photo 18.)

Possible Airfield Sites (Photo 19):

The plateau at Cape Djasi should provide a suitable site for an airfield with a runway about 5600 feet NW/SE running between the two depressions. The rocky cliffs along the coast should provide surfacing material, and there is plenty of timber to the east.

In view of the number of native huts in the area, there should be an adequate supply of drinking water at least in the wet season. The area would also provide a suitable paratroop dropping zone. (See Sec XI A, Sub-sec 2e.)

Tracks:

A native track (about eight miles long) crosses the SW corner of the island from Latdalam to Lermatan. Another leads from Latdalam northward to Wermatang.

3. Noes Kei to Ranarmoje River:

This area includes the large island of Seira and the terrain surrounding Salwassa Bay on Jamdena Island.

Anchorage:

Large vessels can anchor in Wailoetoe roadstead, which is in Jamdena Strait off the village on the north of Seira Island. It is sheltered in both seasons, and there is ample swinging room in 30-40 metres. There is a clear approach from westward, and the strait can be navigated by keeping careful check of the vessel's position by bearings to the many islands and points. Soekeler Island in the western entrance affords an excellent landmark.

There is a protected anchorage for small craft between Seira and Jamdena, and the narrow, shallow strait separating the two islands can be navigated by launches and small sloops, but nothing larger. Bara Sadi, a drying reef located $12\frac{1}{2}$ miles SW of Seira Island, can generally be sighted for a considerable distance by the surf on it.

JAMDENA ISLAND:

Shore (See Photo 20):

From Noes Kei northward to Salwassa Bay the shore is fringed by a large drying coral reef. The coast is low and covered with mangroves; it is uninhabited and difficult to traverse. Off the shore there are numerous low small islands. North of Salwassa Bay the waters are relatively clear, but the wide reef is still present and the shore is low and swampy.

Hinterland:

Low and wooded with occasional clearings, and rising slightly to the uninhabited and little-known interior. There are sago swamps on the banks of Salwassa River where it enters the sea at the head of Salwassa Bay. The only villages on this section of the main island are along the southern shores of Salwassa Bay.

Tracks:

There is a footpath connecting the villages along the southern shore of Salwassa Bay and continuing across the island to Inge. Another runs south from Wermatang to Latdalam.

SEIRA ISLAND— $7^{\circ} 40' S$, $131^{\circ} 4' E$ (Map 6, Photos 21 and 22):

Situated off the west coast of Jamdena, Seira Island is approx 11 miles by four miles, and has a population of about 2500.

Anchorage:

The anchorage in Wailoetoe roadstead is described at the beginning of this Section.

Shore:

There is a wide fringing reef except at the eastern end of the island. The reef narrows opposite Seira village where there is a small sandy beach. The village is occupied by five tribes, each having its own name for the part of the village occupied by it. The west and south coasts are low and swampy and almost completely fringed with mangroves. The east coast is higher and has bluffs along most of its length which finally merge into the swampy ground, which continues along the south coast.

Landing Beaches:

There is a good beach stretching from the inlet Olat Molmoli westward to just past the village of Seira (see Photo 22). The reef opposite the village is very wide, but tapers off to finish at a small headland about 200 yards west of the inlet. The reef is awash at LW, so that landings could only be made on the beach behind it at HW springs. Between the end of the reef and the inlet, however, it is probable that landings could be made at any time.

The terrain immediately behind the reef-fringed beach is covered with a coconut plantation; behind this is a belt of tall timber which runs to the coast and adjoins the small beach to the east. Beyond the belt of timber there is a bank about eight to 10 feet high at the western end of the village but increasing in height to almost 50 feet near the inlet, where it turns southward. The terrain on top of this bank is hard, flat and covered with bushes, low undergrowth and small timber.

South of Cape Ngoertoetoe the NE point of the island there is a small beach. There is a channel of water along the shore with the five-metre line 500 yards from the beach. The entrance to the channel is from the north. There is no information from local sources available, but from Photo 21 and Map 7 it seems that landings could be made. However, even the surface of the beach is unknown, and it would be well to confirm its suitability by additional photo reconnaissance before attempting a landing.

Hinterland:

The island is low and flat and covered with scrubby growth, native gardens (*ladangs*) and patches of timber. The area south and SW of the village is barren and is probably a raised coral terrace. It is difficult to till, and the natives do not use it for cultivation; however, there are numerous *ladangs* on the remainder of the island.

To the south and west are mangroves. Near the east coast there is a large clearing nearly two miles long and up to a mile wide. From very limited photo coverage it appears a possible site for an airfield. Sago was exported in small quantities, but it came from Salwassa Bay on Jamdena Island.

Possible Airfield Sites:

An airfield could probably be constructed on the flat area SW of Seira village. The surface is flat, but contains many loose stones, some of which have a diameter up to two feet. There are also said to be outcrops of rock standing from two to three feet above the ground.

The clearing near the east coast is of sufficient size for an airfield, but the nature of the surface is unknown. Similarly, near the west coast is a cleared area about which information is lacking. (See Sec XI A, Sub-sec 2g.)

Tracks:

Two native tracks cross the island from Seira village, one to the south coast and the other to the east coast opposite Salwassa Bay.

NGOLIN AND SOEKELER ISLANDS:

On a SW extension of the reef surrounding Seira Island, and about one mile from the SW tip of the island, is Ngolin Island. Its northern half is thickly wooded, but the southern half is quite bare.

Soekeler Island, located near the middle of the southern entrance to Jamdena Strait, and three miles NW of Cape Tortoetoe (SW extremity of Seira I), is surrounded by a wide reef. It is wooded, with an elevation of 138 feet, and is a good landmark for entering the strait.

4. Jamdena Strait (Map 6, Photo 24):

This area includes the islands of Seloe, Woeliaroe, Wotap, the small islands of Keswoe and Wolas, and that section of the coast of Jamdena Island lying to the east of these islands. Makatian village is about 30 miles NNW of Saumlaki town.

Anchorage:

Apart from Wailoetoe Roadstead (described in previous area), there are four known anchorages, three of which are around Wotap Island and one between Keswoe Island and Makatian village on Jamdena Island.

At Wotap Island there is good sheltered anchorage in 30 metres in a small bay on the east coast. There are two smaller bays on the west coast which provide anchorage in the SE season for small craft. The quiet waters between Keswoe Island and Jamdena Island provide anchorage for small vessels in 10 metres.

Apart from those mentioned above, it is evident from Dutch Chart No. 382 that other anchorages, sheltered at least in one season, are to be found in Jamdena Strait.

At its NE end, Jamdena Strait can be entered between Jamdena and Wotap Island, or by way of Wotap Strait, which separates Wotap Island from Woeliaroe. Patches of discolouration are often to be seen in deep water in Jamdena Strait and, for navigation, reliance should not be placed on discolouration of reefs.

JAMDENA ISLAND:

Shore:

The fringing reef continues along the shore. There is a good beach near Makatian, but northward the coast is low and swampy, with sago swamps and forest.

Landing Beaches (Photo 23):

A good sandy beach runs for several hundred yards both north and south of the village of Makatian. It is very shelving, and the five-metre ($2\frac{1}{2}$ fathoms) line runs from one mile to $1\frac{1}{2}$ miles offshore. The reef is of hard coral covered with sand, and about 700 yards wide opposite the beach. It is partly exposed at LW. Landings on this beach with craft drawing 3ft 6in could be safely made only at HW springs. It is very sheltered and the waters are always calm. A small wooded headland at the southern extremity of the beach, 400 yards south of the village, could be used by defenders to enfilade landing operations on the beach. South of this headland there is another good sandy beach, but the fringing reef opposite it is very much wider.

The terrain behind the beach is flat and covered with secondary growth. A short distance inland south of the village there are several patches of *ladang*.

Water is fairly scarce, and is obtained from small wells situated in the *ladang* area.

Hinterland:

The coastal plain here is up to $1\frac{1}{2}$ miles wide, beyond which the comparatively unknown hilly country in the middle of the island begins. Ranarmoje River, flowing from the east, meanders through the plain, then makes a hairpin bend about one mile north of Makatian to run southwards more or less parallel to the coast and about half a mile inland. The mouth of the river lies $2\frac{1}{2}$ miles SSW of the village. Inland from Cape Noean there is a large cleared area. Information about it is lacking, and it is probably too hilly for airfield construction, and also the swampy coast would make communication difficult.

Tracks:

There are said to be foottracks from Makatian across the island to Loro Oemboeng (30 miles) and to Amdassa (22 miles). There is no information about these tracks, and they are probably only native pads.

SELOE ISLAND— $7^{\circ} 32' S$, $130^{\circ} 55' E$ (Map 6, Photo 26):

A fairly hilly island about 10 miles E/W by five miles wide lying at the SW end of Jamdena Strait. There are two conspicuous peaks in the SW of the island—Amat Dawah (692ft) and Woeroe Woeroe (679ft). The island is uninhabited and practically covered with rain forest, with mangroves bordering the inlets and creeks. Gardens made by the inhabitants of Seira Island are on the east and south coasts. Semi-wild coconuts fringe the shore in some places.

The island is fringed by a reef narrow on the north and west, but wide to the SE. On a continuation of the reef to the NW there is the small island of Nitoe with several small islets nearby. The coast is approachable at the western end of the south coast, and it is probably somewhere along this section that the natives land to tend their gardens.

WOELIAROE ISLAND— $7^{\circ} 28' S$, $131^{\circ} 5' E$ (Map 6, Photo 26):

This is the largest of the islands west of Jamdena. It is 13 miles by six miles. The island is hilly with several outstanding elevations, the highest of which is 617 feet above sea level.

On the SE coast opposite Seloe Island the terrain is low and swampy. Woeliaroe is practically covered with rain forest. It is uninhabited, and the only visitors to the island are natives from Seira Island who have a few *ladangs* in the hills. There are several sandy beaches along the north and west coasts where visiting natives probably land. The numerous dangers, although usually well marked, would prohibit landing on the island in the south. It is reported that there is a good spring on the west coast near Cape Boetoe shown on the chart (Map 7) as Zoetwaterbron (fresh water spring).

KESWOE ISLAND—7° 31' S, 131° 9' E (Map 6, Photo 24) :

Situated in the middle of Jamdena Strait, five miles east of the southern extremity of Woeliaroe Island, Keswoe Island is nearly round in shape and about two miles in diameter. It is heavily wooded except for the SE extremity, where there is a cleared area. The island is uninhabited.

WOTAP ISLAND—7° 20' S, 131° 15' E (Map 6, Photos 24 and 27) :

A small, hilly island situated near the northern entrance to Jamdena Strait. The highest point is 620 feet, near the centre of the island. Wotap is densely wooded and uninhabited, and in a few places has semi-wild coconuts growing along the shores. Because of the encircling reef, the shores could be approached only at HW.

The small islands Natrool and Natraal, between Woeliaroe and Wotap, are uninhabited; they have a fringe of dense timber near the shores, with scrub inland.

5. NW Coast of Jamdena Island and Off-lying Islands:

The area includes the islands of Laibobar, Mitak, Namwaän, Itain and the smaller islands of the group, together with that section of the NW coast of Jamdena Island which lies to the east and SE of the group.

Anchorage:

i. **LAIBOBAR ISLAND (Photo 28) :** Good anchorage can be found in a small bay on the southern side of the island. There is a depth of 49 metres just outside the bay, and over 20 metres inside in sheltered waters.

Another anchorage is found opposite an indentation in the reef near Laibobar village on the west coast. Large vessels must anchor well out, but smaller craft and prahoes came right into the shore over the fringing reef. During the NW season all native craft are moved to the east coast to avoid rough weather.

ii. **NAMWAÄN AND ITAIN ISLANDS (Photo 30) :** There is sheltered anchorage in 29 metres between these islands. The anchorage is fixed by the point of Namwaän—bearing 180°, and the northern point of Vatvoerat—bearing 100°. The channel between the two islands is clear but narrow, and should be used only when the reefs are visible.

JAMDENA ISLAND (Photos 24 and 27) :

The coast of Jamdena Island continues to be fringed by reef. It is low and swampy, and heavily wooded almost to the shoreline. The rain forest is 60-80 feet high. Apparently the only village in the area is Vatmassa (population unknown), which is on the NW tip of the island. The remainder of the area is uninhabited and little-known country.

LAIBOBAR ISLAND—7° 14' S, 131° 23' E (Map 6, Photos 28 and 29) :

A small, hilly island lying about six miles off the NW coast of Jamdena Island. It is about four miles long and one mile wide, and can be crossed on foot in the low places in 20 minutes. The population is about 1200, living in the two villages Ngafahi and Laibobar. The latter village, which houses most of the population, has been shifted about one mile north in recent years, and is now situated on a bay on the west coast opposite a deep indentation in the fringing reef. A large part of the island is level or slightly undulating, but Mt Laibabor at the southern tip reaches an elevation of 1283 feet, the highest point in the entire Tanimbar Group. There is also a hill at the northern point of the island 512 feet high. The shore of the island is steeply shelving, and on the east coast, where the reef is narrow and there are narrow beaches between the bluffs, boats drawing 3ft 6in could land at high water. The best landing place would probably be at Ngafahi, where the shore does not rise very steeply. The island is heavily wooded except for native *ladangs* near the villages and in some places along the coast, where coconuts, vegetables and corn are grown.

The anchorages off the island are described at the beginning of this Section.

MITAK ISLAND—7° 11' S, 131° 28' E (Map 6, Photo 31):

Lying two miles off the NW coast of Jamdena, the island is four miles by about two miles. It has a low coastline with scattered *ladangs*, coconuts and some mangroves, and a slightly elevated interior which is planted with a coconut and cotton plantation owned by Crediet en Handels Vereeniging, Banda (CHV).

There is reported to be a landing stage for small craft on the south coast of the island, but this is not apparent in Photo 31, and it has possibly been removed. The coolie quarters, warehouses and copra dryer are near the centre of the island about 20 minutes' walk from the jetty site. There is a small, sandy beach opposite a clearing at the jetty site which could possibly be approached by small landing craft at HW. However, the approach is difficult and would need care. Probably the best landing place would be at the SW part of the island. There is good depth of water and the reef is narrow, although it is coral and may have a jagged surface.

NAMWAÄN ISLAND—7° 07' S, 131° 26' E (Map 6, Photos 30 and 31):

Known locally as Teneman, the island is surrounded by a wide reef fringing in most places a sandy beach. Along the east and north coasts where the reef is narrower landing boats drawing 3ft 6in could probably reach the beach at HW.

The island is hilly, the highest elevation being 495 feet; it is planted with coconuts in the northern parts.

The local management of CHV had its headquarters and main plantation buildings on the western side of the island. The buildings included copra-dryers, bungalows and coolie lines. The southern portion of the island is more heavily wooded.

In addition to the anchorage north of the island, which is described at the beginning of this Sub-section (5), good shelter in the NW season can be found in at least 20 metres of water in the bay at the SE of the island.

ITAIN ISLAND—7° 05' S, 131° 26' E (Map 6, Photos 30 and 31):

Just to the north, and separated from Namwaän Island by a narrow channel, Itain is known locally as Poeloe Makassar. It is fringed by reef except for a part of the NE coast and the SE tip of the island. The highest elevation is 420 feet in the southern part of the island. The top of the hill is wooded, but the surrounding slopes are covered with coconuts belonging to CHV. A landing at any time could be made on the perfect beach at the SE tip of the island, which is one of the parts planted with coconuts.

The smaller islands in the vicinity are largely unknown, but they are hilly, wooded and uninhabited.

6. Moloe and Adjacent Islands:

This area includes the islands of Moloe, Maroe, Wajangan and the group of islets known as Noes Lima. The islands are the most northern of the Tanimbar Group and caution is necessary in approaching them, especially within the 200-metre line, as the reefs and shallows show very slight discolouration. The channel between Moloe Island and the uninhabited island of Kalboer lying northward of it is clear. There is sometimes a heavy sea in this passage.

Anchorage:

i. **MOLOE ISLAND (Map 6, Photo 32):** Sheltered anchorage in the NW season can be found in 30 metres (16 fathoms) of water in Loka Bay (Telok Loka) on the east coast.

In the east monsoon the best anchorage is in 40 metres off Adodo village on the west coast.

ii. **MAROE ISLAND:** Except at the SE point of the island, anchorage can be found in depths of 40-60 metres anywhere around Maroe, depending upon the seasonal winds.

iii. **NOES LIMA:** Small craft can find anchorage in eight metres between four small islands and a fifth to the NW. The anchorage was previously used by fishermen only, or an occasional native prahoe.

MOLOE ISLAND—6° 45' S, 131° 33' E (Map 6, Photo 32):

Shore:

The island is completely fringed with a coastal reef that extends far out from the southern end to connect with the coral atoll known as Wajangan. Except for Loka Bay and the coast near Adodo village, the shore consists of low bluffs fronted in many places by narrow sand beaches.

Landing Beaches:

Information is lacking, but it appears possible from charts and limited photographic coverage that craft drawing 3ft 6in could land at Adodo village on the west coast, and at Wedang Kaoe village in Loka Bay at HW springs.

Hinterland:

The island is hilly, in most places rising fairly steeply from the coastal bluffs. There are two conspicuous elevations on the island, Melwoear Niwejan (896ft) in the north, and Keljobar Wahan (643ft) in the SE. The higher parts of the island are wooded, with occasional clearings, but in the lower parts there are large areas of native gardens and coconuts, and some tobacco for local consumption. Copra was previously exported in small quantities.

Moloe has seven inhabited localities, the greatest concentration being on the eastern side of the island. There are also scattered houses as well as settlements on the western coast. The largest *kampong* on the island is Adodo on the west coast, where there is a church and native school. The population of the island is estimated at between 2500 and 4000. All are Christian except the inhabitants of Kiloen, on the eastern coast, who are Mohammedan. Water is obtained from both springs and wells.

Tracks:

A good track runs along the west coast from Adodo to Noerkaät village on the southern tip of the island. Trans-island tracks run from Woenlah at the southern extremity of Loka Bay to Woelmasa and Noerkaät.

WAJANGAN ISLAND—(Map 6, Photo 32):

On the southern extremity of the reef which fringes Moloe Island, Wajangan is low and wooded. The coastline comprises low bluffs. There is a clearing with *ladangs* and a few native huts.

MAROE ISLAND—6° 55' S, 131° 30' E:

Lying to the SW of Moloe Island, Maroe is about five miles by two miles. It is fringed with a coastal reef that extends far out on the northern and SW ends. The sandy beach is narrow and can be walked except for a short stretch on the eastern coast where there are low bluffs, and a similar spot directly across the island on the western shore. With the exception of these two stretches, landings could probably be made at any point at HW and at the proper season.

The highest point on Maroe Island is Loebwaan Hill (879ft). The entire island is uninhabited except for a few coolies tending the coconut plantation on the southern part of the island. This plantation is owned in part by villagers living in Moloe Island and part by an Ambonese named Patti Radja Wani.

The coastal reef stretching far out from the SW part of Maroe was thronged in fine weather by trepang fishers from Moloe Island.

NOES LIMA ISLANDS—6° 58' S, 131° 36' E:

This is a small group of islands, the largest barely half a mile long, situated eight miles north of the NW tip of Jamdena Island. The group is uninhabited except for some temporary huts on Wermatan, the westernmost of the group. These are occasionally used by villagers from Moloe Island, who come to pick coconuts from the semi-wild groves on the island, or to fish off the coral reefs. Each of the islets is wooded, and has high ground in the centre.

7. Larat Island and Vicinity:

This area covers the island of Fordate, the large island of Larat, and the adjoining NE end of Jamdena. The principal settlement in this area, Larat (Ritabel) is about 55 miles NE of Saumlaki.

Anchorage:

The main anchorage is in Ritabel Bay. It is a rectangular area nearly $1\frac{1}{2}$ miles long and half a mile wide, with depths of 10-20 metres and muddy holding ground. No swell is felt except during strong NW winds. The bay lies at the western end of Larat Island, where there were three villages, Boegis, Ridol and Babar, known collectively as Larat, or sometimes Ritabel. They were on the inner and eastern side of Ritabel Bay.

Recent photographs reveal that the main part of the village has been destroyed or removed. On the western side of the bay is the small village or Lilling Loean on the reef-encircled island of Loetoer.

The approaches from the north are clear and free of danger, and the harbour was formerly well marked with beacons. The approach from the SE through the channel separating Larat and Jamdena Islands is shallow and narrow, and is only navigable by launches and small schooners at HW. Larat was a regular port of call for steamers of the Royal Mail Steamship Co (KPM).

Meti Rottan, a reef lying two miles NW of the entrance to the bay, shows well, as also does the reef surrounding Farnoesan Island, two miles farther NW. Anchorage can be had off the remainder of Larat Island at the proper time of the year, but the wide fringing reef discourages the handling of much freight.

The coast of Fordate Island is inclined to be steep-to, and it is believed that anchorage can be had off both the eastern and western coasts during the proper season. The current is often swift and strong in Orafroean Strait, but nevertheless good anchorage in deep water can be had off the little village of Aweer near the southern end of the island. Ships occasionally pick up a small cargo of copra on the beach at this spot.

Jetties:

At Larat (Ritabel) is a small, well-constructed jetty with an L-shaped head made of coral, stone and timber. The jetty is about 300 feet long, about 20 feet wide, and has a loading capacity of 10-20 tons. The water alongside, which is 15 feet at LW, is deep enough for small sloops and launches. The height of the decking is approx 10 feet above LW.

JAMDENA ISLAND—(Photos 35 and 38):

This section of Jamdena Island is heavily wooded and uninhabited. The coast is low and swampy for 15 miles southward from Larat. The fringing reef is wide, and there are dangerous offshore shoals and patches. Reports indicate that a track exists between Watmoeri village and the NE tip of Jamdena. If this is so, it probably runs inland, because the coastal strip is too muddy and swampy for walking.

LARAT ISLAND—(Map 6, Photos 33, 34 and 35):

The anchorage in Ritabel Bay and the approaches are described at the beginning of this Sub-section (7).

Shore:

Larat Island has a narrow, sandy beach broken only by occasional bluffs. An extensive foreshore reef which surrounds the island would make landings fairly difficult.

Landing Beaches:

Beach 1: Just north of Larat there is a good sandy beach a little over 100 yards long, called locally the Pantei Toeian Pastoor, or the Pastor's Beach. Southern extremity of the beach is about 250 yards north of the jetty at Larat. The beach is bounded on the north by the mouth of a canal which drains a swamp some 150 yards inland. North of this canal there is a cliffy headland from which flanking fire could be brought to bear on the beach.

The coral reef is fairly narrow, and craft drawing 3ft 6in can approach within 50 yards of the beach at LW.

The terrain behind the beach is wooded, but easy to cross. There is a path leading to the village through these woods. There is also a footpath along the canal at the northern extremity of the beach leading to the swamp, which has been partially filled in. After reaching the swamp, the path turns south and leads to the former police barracks, which are the last buildings on the trail which runs due east out of the village.

Water is obtainable from a well all the year round. The well is situated on the above trail, about one mile past the police barracks.

Beach 2: About three miles in a direct line NE of Larat village, and 1000 yards west of the cape off Vat Sori rock on the north coast of the island, there is a good sandy beach 500 yards long between cliffs which form the eastern and western boundaries of the beach. The fringing reef is 450-550 yards wide opposite the beach. It is probable that this reef is just awash at LW, so that the beach can be used with safety only during HW springs. It is very exposed during the NW monsoon.

The terrain behind the beach, and between the higher ground east and west of it, is planted with coconut trees to a depth of 50 yards. The coastal trail which runs from Keliobar along the north coast of the island to Watidal and Larat passes through this coconut plantation. Behind this plantation there is a triangular area of native gardens and low scrub. The apex of this triangle is directly inland from the beach and 750 yards from it. Beyond this the terrain is covered with secondary growth. There are other patches of native gardens SW from the beach, between it and Larat. The whole district is comparatively flat.

Nothing is known about the water supply, but there are several native houses scattered about the area, and the village of Watidal, which is built on a hill, is less than $1\frac{1}{4}$ miles SW of this beach, so it is likely that water is obtainable in fair quantities from wells.

Beach 3: Along the north coast, about $2\frac{1}{2}$ miles east of the village of Keliobar, in the neighbourhood of Vatoe Bwea rock, there is an excellent sandy beach reported to be nearly three miles long stretching westwards. The beach is about 50 yards wide at LW and 15 yards at HW. The depth of water within a few hundred yards offshore is about 40 metres (22 fathoms).

The beach is very exposed during the NW monsoon, when there is nearly always a considerable swell on it. There are strong currents in Orafroean Strait. The coastal trail from Keliobar to Larat runs 50-100 yards from the beach. This trail is about two yards wide, and it is probable that it could be used by jeeps.

The terrain between the beach and the trail has some coconut trees on it, but the coconut plantations are more often found on the landward side of the trail. Farther inland the terrain is flat and covered with secondary growth, amongst which are patches of *ladang*. There are no natural obstacles such as rivers, ravines or steep hills, but during the rainy season there are areas of shallow swamp.

Water is difficult to obtain during the dry season. This has always been a problem on the island, and the well water supply had to be augmented by rain water catchments.

Hinterland:

The island, in comparison with the remainder of the Tanimbar Group, is fairly thickly populated (between 5000 and 7000 inhabitants) and well cultivated. Larat is the largest town and chief port, but photos taken on 1 Jun 44 revealed that almost all the buildings had been destroyed or removed and activity in the area was very slight. In addition to the town of Larat, there are native villages or *kampongs* named Watidal, Keliobar, Kilaan, Lamdessar Barat and Lamdessar Timoer. Of these, the largest are Lamdessar Timoer and Keliobar.

The interior of the island is partly cleared, partly new second growth, and partly old second growth reverting to forest. Native *ladangs* are scattered everywhere, the principal crops being maize, *katjan idjoe* (a small green pea), upland rice, sweet potatoes, yams, cassava, tobacco, etc. It is criss-crossed everywhere by a multitude of narrow footpaths, but contains no villages. The inhabitants live on the coast and walk to their gardens.

Most crops are harvested twice a year, but the principal one is in May, when *katjan idjoe*, rice and most vegetables are obtained. Most of the villagers move out into the country during this season to camp near their gardens.

The following men are known and have influence in their respective villages:

| <i>Village</i> | <i>Name</i> | <i>Position</i> |
|------------------|-------------|-----------------|
| Lamdessar Barat | Karaul | Orang Kaja |
| Lamdessar Timoer | Mailoa | Orang Kaja |
| Kilaan | Mairissa | Goeroe |
| Keliobar | Ririmassi | Goeroe |
| Watidal | Parania | Goeroe |

Possible Airfield Sites:

The island of Larat as a whole is comparatively flat. There are several areas near the west and NW coasts which have been cleared for *ladangs*. As a general rule such *ladangs* are built on fairly flat areas, and it is possible that some of these would be suitable sites for the construction of airfields.

Old coral for surfacing is obtainable in large quantities, and both labour and timber are easily procurable. The water supply is somewhat unsatisfactory. There are wells which have never been known to run dry about one mile past the police barracks along the trail which runs inland eastward from Larat village. Supply of fresh water was augmented by rain-water catchment.

Paratroop Dropping Zones:

A triangular area of cleared country just SE of Larat village provides a suitable dropping zone.

A second area, also triangular in shape, lies behind Beach 2, and is described in that Section above. The many native gardens on the island may provide additional dropping zones.

Tracks:

Photographic coverage of 1 Jun 44 reveals that MT tracks run inland from Larat village. The coverage is limited, and there is nothing to indicate where the tracks end or whether numbers of personnel on the island are substantial. MT are, however, hardly likely to have been put ashore on such a small island unless a fair number of personnel is present there.

A wide government trail, with bridges over all small streams, parallels the western, northern and SW coasts. It usually follows the coast at a distance of 50-200 yards, running underneath the coconuts and around the fenced-off gardens. Grades are moderate. Travel by bicycle is possible between Lamdessar Barat and Lamdessar Timoer. The sandy beaches and wide coral reefs can be followed at LW and are perhaps preferable to the trail. At HW the trail is more satisfactory.

FORDATE ISLAND—7° 03' S, 131° 57' E (Map 6, Photos 36 and 37):

Situated just to the north of Larat Island, from which it is separated by Orafroean Strait, Fordate is about eight miles by two miles. It is hilly with a number of conspicuous peaks, the highest of which is in the northern central section, and has an elevation of 850 feet.

The island is surrounded by a coastal reef fringing a narrow beach. Off the reef the depths increase rapidly. In most places the terrain rises steeply from the beach, sometimes in bluffs or cliffs, and there is only one beach which can be recommended for landing. This beach is on the SW of the island and stretches from about 200 yards south of Aweer past Roem ngewoer village to just beyond Roemjaän (Photo 37).

The part of the beach north of Roem ngewoer is at the foot of low wooded cliffs, but the terrain adjoining the beach at this village and eastwards is flat. The whole beach is fringed by coral reef which dries at LW.

There is a sandy approach, a good 100 yards wide, offshore from the football field which lies in the middle of Roemjaän village. This approach remains covered at LW. Strong tidal streams pass through Orafroean Strait, and landings on the beach at Roemjaän will at times be hazardous on this account. This part of the beach is also unprotected in the SE monsoon, when landings should be made nearer Aweer. (In the NW monsoon, of course, the conditions are reversed.) There is a track connecting the three villages and continuing along the west coast to Ododoe village. This track crosses a creek by a footbridge just north of Roem ngewoer. The terrain behind the villages is fairly flat for nearly one mile inland, where the ground rises at the foot of the forest-covered hills which form the central ridge of Fordate Island. Native gardens between sparsely timbered areas cover the flat country behind the villages. Water is obtained from wells, and the supply is much more satisfactory than on Larat Island.

Noe ka ha, or Schildpad Island, 128 feet high, situated about two miles SE of Fordate, is thickly covered with growth. The drying reef on which it lies shows plainly.

FARNOESAN ISLAND:

A low, reef-fringed island at the NW approach to Ritabel Bay is entirely planted with coconuts. The plantation was owned and managed by an aged German named Zumfelder, who was well known as an orchid collector and exporter. The well-known Larat orchid was originally discovered on Larat Island, but is also found on Farnoesan, and on the north coast of Jamdena.

8. East Coast of Jamdena Island (Map 6, Photos 40 and 41):

The area comprises the eastern central section of Jamdena Island, including the chain of coastal villages stretching southward from Watmoeri to Mitak Bay. Watmoeri is about 42 miles NE of Saumlaki.

Approaches:

In the NW monsoon, which is often very strong from December to March, vessels coming from Strait Orafroean (between Larat and Fordate) and proceeding southward to Egeron Strait, are advised to use the inside route along the east coast of Jamdena. Strait Orafroean is clear of dangers and easy to navigate, as the shore reef on both sides discolours clearly.

The shore reef fringing Larat Island also discolours very clearly, and the wreck near the SE point of the island is a good landmark.

Vessels following the inside route proceed eastward of the reefs Sari Karmoet and Sari Karmoeta, which are exposed at LW, and then steer for the conspicuous point on which Watmoeri village is situated. This point should not be approached nearer than one mile. The reef at $7^{\circ} 34' S, 131^{\circ} 42' E$, carrying five metres ($2\frac{1}{2}$ fathoms) of water, and the reef at $7^{\circ} 37\frac{1}{2}' S, 131^{\circ} 41\frac{1}{2}' E$, carrying four metres (two fathoms), are the only dangers. They are seldom marked by discolouration.

There are no other dangers in the passage between the drying reefs Sari Batsir, Sari Watoeroe, Sari Kilmasa, and the coast of Jamdena.

Magnetic disturbances are reported in the locality of Aloesi village, caused by iron ore near the village.

On approaching Strait Egeron vessels should avoid the drying reef which extends far eastward from Asoetoeboen Island.

The river Weri Tambrian (northward of Kore Island) often discharges muddy water, much of which flows through the channel between Mes Island and Jamdena. This channel should be used only when the water is clear and the light favourable to see the reefs.

Anchorage:

Generally speaking, the anchorages in this section are usable only in the NW season. Following are the recognised anchorages:

i. WATMOERI— $07^{\circ} 25' S, 131^{\circ} 42' E$ (Photo 39): First village on the coast southward from Larat. The anchorage is directly off the village; a *godown* is on the beach. From the anchorage Point Watmoeri bears 290° , the *godown* 237° , and a point to the southward 213° . Depth is 43 metres (23 fathoms). The anchorage is safe during the NW season, but during the SE season there is no protection for large vessels, although small craft can anchor behind Point Watmoeri.

| Miles | Fathoms | Feet | Meters |
|-------|---------|------|--------|
| 32 | 52 | 900 | 280 |
| 30 | 50 | 900 | 260 |
| 28 | 48 | 800 | 240 |
| 26 | 46 | 800 | 220 |
| 24 | 44 | 700 | 200 |
| 22 | 42 | 700 | 180 |
| 20 | 40 | 600 | 160 |
| 18 | 38 | 500 | 140 |
| 16 | 36 | 500 | 120 |
| 14 | 34 | 400 | 100 |
| 12 | 32 | 300 | 80 |
| 10 | 30 | 300 | 60 |
| 8 | 28 | 200 | 40 |
| 6 | 26 | 100 | 20 |
| 4 | 24 | 100 | 20 |
| 2 | 22 | 40 | 20 |

ii. MANGLOESI—07° 30' S, 131° 40' E: Small village about five miles south of Watmoeri. The anchorage is good in the NW monsoon, but exposed during the SE season. Anchorage is in 35 metres (18 fathoms) with bearings 213° to the point south of Mangloesi, 237° to the village, and 347° to the point northward of Mangloesi. From the outer anchorage small boats often went through a marked passage between the reefs and could reach a place 20-30 yards from the shore west of the high cliff which is situated north of the village.

iii. WATOEROE—07° 31' S, 131° 40' E: Anchorage in 21 metres (11 fathoms) 1½ miles south of Mangloesi. Bearings are Toetoekebong Point 261°, point eastward of Mangloesi 347°, point southward of Mangloesi 285°, point eastward of Watoeroe 225°.

iv. KILMASA LOEMBASEMBOEN—07° 36' S, 131° 38' E: Anchorage open to heavy seas in the SE monsoon opposite the village in 30 metres (16 fathoms). Bearings are: top of mountain 268°, Cape Mejanoë 205°, a rocky point 346°. Copra was formerly loaded here.

v. ALOESI—07° 40' S, 131° 35' E: Small copra loading place. Anchorage is in 29 metres (15 fathoms) with bearings 35° to Cape Mejanoë and 318° to Aloesi village. On shore there is a deposit of iron ore that causes local magnetic disturbance.

vi. AROEI DAS—07° 43' S, 131° 32' E: There is a fair anchorage off this *kampong* during the NW monsoon in 22 metres (12 fathoms). Bearings at the anchorage are Cape Aroe 294° and Cape Batkiek 40°.

vii. TOEMBOER—07° 52' S, 131° 22' E: Following is an extract from the *Sailing Directions* issued by the KPM:

"Vessels enter the bay on the course 317° with the village (Toemboer) ahead. This course runs clear of the five-metre patch to port and the three-metre patch to starboard. After passing the five-metre patch, course should be altered a little to port until the village bears 340°. The anchorage is in 14 metres about 1000 yards from the shore with the village bearing 340° and Cape Salbeer bearing 18°. This approach was done at night, and it may be possible to anchor somewhat closer in by daylight. When coming from the north, care must be taken not to mistake Loro Oeloeng."

Shore:

The most thickly populated part of Jamdena Island is the coastal region from the village of Watmoeri southward to the tip of the island. There are numerous small bays and inlets which afford good shelter for small craft, and there is also a good horse trail from village to village along the shore. Coconuts fringe a portion of the coast. Indian corn and *katjang idjoe* (a small green pea) are grown, and in later years a considerable amount of *ladang* rice has been raised. The Catholic Missions are influential in the region.

There are 19 villages along the section of coastline described in this area, most of them are inaccessible except at HW owing to the fringing reef. Only the more important villages which have an anchorage nearby will be described. Most of the coastline between the villages is composed of cliffs and bluffs rising steeply, although there are beaches fronting several of the villages.

The village of Watmoeri lies back from a narrow beach on a rocky shore. A second *kampong* of similar size named Arma lies to the west across a small bay just over a mile distant. The two villages are connected by a planked causeway 500 yards long that crosses the open end of the bay. They have a common church and school. There is a *godown* on the shore and several huts in a cleared area to the west of Watmoeri. The village exports small amounts of copra and *katjang idjoe*.

Kg Mangloesi is situated on a hill back from the anchorage. North of the village are three small houses on the beach. A long series of steps must be climbed to reach the village.

Watoeroe village (see Photo 42) is fronted by a sandy beach and backed by heavily wooded rising ground. The *kampong* is a large one, and contains a school and Catholic church. Coconuts fringe the coast both to the north and south of the village, and there is some export of copra. Wild buffalo and pigs are shot in the interior from the latitude of Watoeroe southwards to the southern end of the island.

Farther south at Kilmasa Loembasemboen (see Photo 43) the coastal reef is wide. Coolies have to walk across at least 400 yards of sand from the landing boats to the *godowns*. The trail from Watoeroe to Kilmasa runs mainly along sandy beaches and is level and good throughout. Southward from Kilmasa, through Mejanoë to Aloesi, the shore is rough and rocky and the trail is much more difficult to follow. At LW the coast can be followed, though with some difficulty; at HW the trail alone is passable.

Mejanoë Bab and Mejanoë Das are two small villages lying close together on a steep headland. They have a common church and school.

At Aloesi the reef is 300 yards wide and the shore can be approached only at HW.

Similarly at Aroei Das landing at LW can be made only outside a very wide coastal reef. Travel from Aroei Das southward to Toemboer village is difficult because of four or five small rivers which reach the sea on this portion of the coast. At least three of these rivers widen out near their mouths to over a mile. Each must be crossed on rafts. There are numerous crocodiles in these streams, and Europeans as well as natives and horses have been lost. From north to south the three main rivers are the Tambrian, the Atoeboel and the Loro.

Landing Beaches:

It is considered that the only practicable landing beach in this section is at Toemboer, where there is a good sandy beach 100-125 yards long which can, however, be reached by landing craft only at HW. (There is another small beach at Loro Oeloeng about one mile north of Toemboer, and care should be taken not to confuse the two. There is a hard coral reef off the former village which is difficult to cross.)

There was a copra shed on the beach at Toemboer which was visible from the sea. This shed was at the northern extremity of the beach. On account of underwater hazards, landing craft should keep southward of this shed. Approaches to Toemboer are given under *Anchorage*s in this Section.

The terrain adjoining the beach is mostly fairly steep, with some low patches containing sago swamp. There are many *ladangs* inland. The coastal track which runs along the east coast of the island passes close to the beach. Northward along this trail is Loro Oeloeng, from where a trail branches westward to Salwassa Bay. This trail is, however, not as good as the one which goes from Ilnge to Wermatang village on the south shore of Salwassa Bay. Ilnge lies on the coastal trail which runs southwards from Toemboer.

Hinterland:

Little is known of the terrain in the centre of Jamdena, but the flow of the few rivers and the steeper rise from the east coast indicates that the main ridge runs along the east side of the island. The vegetation is mainly rain forest with occasional clearings which become more numerous at the southern end of the island.

Tracks:

There is a good horse track from village to village along the shore (see Sec XII). Also trans-island tracks run from Loro Oemboeng and Amdassa to Makatian village on the west coast.

Water:

Very little is known of the water supply in this area. It is assumed that, as in other villages in this area, water is obtained from shallow wells. Probable sources of supply would be the rivers which enter the sea between Aroei Das and Toemboer villages.



SECTION VII—PHYSIOGRAPHY

(See Map 2)

1. General:

The whole of the Tanimbar Group of islands is low, and there are no distinctive mountain ranges. The highest elevation in the entire group is 1283 feet on Laibobar Island, which lies off the NW coast of Jamdena Island. Although there are many irregularities, the general trend of the hills is NE/SW. As the regional topographic aspect is subdued, the local distribution of the hills has little or no effect on climate, vegetation, or distribution of population.

The interior of practically all the islands comprises rain forest, while around the coasts in inhabited areas are native gardens and plantations.

There are no lakes, and only one river of any size, but considerable areas of swamp are found along the northern and western parts of Jamdena Island, and on Selaroe Island.

2. Detailed Description:

a. SELAROE ISLAND (See also Secs IV-VI, Part A):

This island, the southernmost of the group, is generally of low elevation, and the vegetation is mainly scattered trees and open grass patches, with some rain forest in the northern parts.

The shore is completely fringed by a coral reef drying at LW and in places over a mile wide. The southern part of the island is occupied by a ridge just over 300 feet high. The terrain is terraced on the westward side of this ridge, but on the east it rises in a smooth slope.

The remainder of the island is slightly undulating, the highest part being on the NW coast just south of Olendir Anchorage, where there is a hill about 50 feet high. Parts of this northern section of the island are covered by sago swamp. There are three small rivers in the NW part of the island, but they flow throughout their length through swampy ground and are not navigable.

b. JAMDENA ISLAND:

The main island in the group, Jamdena, is inhabited only on the coast. The hinterland comprises dense rain forest, gradually thinning in the southern parts.

The western coast of the island is generally low and swampy, and the fringing reef wider than on the east coast. The centre of the island is covered by a plateau sloping down to the west and averaging 300 feet elevation. Around this central plateau is a belt of undulating country which reaches the coast on the east along practically its whole length, with a few higher hills near the coast, the highest being about 800 feet near Kilmasa village.





The single large river in the group is the Ranarmoje, sometimes called the Soengai Makatian, which rises in the plateau about 10 miles west of Watmoeri (east coast), crosses the island in a general SW direction, and discharges 2½ miles south of Makatian village on the west coast. Smaller streams flow into shallow Salwassa Bay on the west coast, and to the east coast in the vicinity of the small islands Mes and Kore.

c. OFF-LYING ISLANDS:

The islands of Seira, Seloe and Woeliaroe are slightly hilly, but are swampy in their southern parts. Farther north the islands are rough and rugged, but not high. The highest is Laibobar (1283ft).

Many of these smaller islands are fringed with coral bluffs, and all are forested for the greater part.

• L E G E N D •

| | | |
|--------------------|-------|---|
| Hills | ----- |  |
| Undulating Country | ----- |  |
| Flat Terrain | ----- |  |
| Swamp | ----- |  |



JAM DEN A
I S L A N D

Owing to lack of detailed information, boundaries of areas must not be taken as exact. They are a general indication only....

MAP 2

VEGETATION MAP

Owing to lack of detailed information, boundaries of areas must not be taken as exact. They are a general indication only....



• LEGEND •

| | |
|------------------------|--|
| Jungle and Rain Forest | |
| Secondary Growth | |
| Plantations | |
| Swamp | |

Note: The areas shown as secondary growth include gardens, grassy areas, clearings and native coconut groves.



MAP 3

SECTION VIII—VEGETATION

(See Map 3)

1. General:

The shores of the northern and western part of Jamdena Island, and areas near the mouths of the larger streams, are often covered with mangroves. With this exception, the Tanimbar Islands were originally covered with a heavy growth of tropical rain forest which became somewhat more open and more scrubby toward the SW, where there are areas that begin to have a savannah aspect. For example, the vegetation on Saumlaki Peninsula and Selaroe Island is rather open and, in places, is inclined to be scrubby. This may be partly due to climate, but probably most of the area has at some time been cleared for gardens.

Very little is known of any timber trees or their suitability for milling purposes, although there is believed to be good ironwood on Larat Island. Owing to the poor quality of the soil it is fairly certain that the majority of the trees are of small diameter. It is known that yellowwood (Dutch: *kojoe koening*) grows on some of the islands. It is a hardwood, but does not grow to any size. The roots are chiefly used for making dye.

2. Plantations:

A large percentage of the coconuts raised and the copra produced for export is native-grown. Native plantations, particularly a few trees here and there or in small patches, abound along the coasts. The principal plantations are:

a. MITAK ISLAND—7° 11' S, 131° 28' E (Photo 31):

A coconut and cotton plantation in the interior of the island is owned by Crediet en Handels Vereeniging, Banda (CHV). There is a small beach on the south coast of the island which is connected by a track to the coolie quarters, warehouses and copra-dryer near the centre of the island.

b. NAMWAÄN ISLAND—7° 07' S, 131° 26' E (Photos 30 and 31):

The northern part of this island is planted with coconuts. The local management of CHV had its headquarters and main plantation buildings on the western side of the island. The buildings included copra-dryers, bungalows and coolie lines.

c. ITAIN ISLAND—7° 05' S, 131° 26' E (Photos 30 and 31):

The slopes of the hill in the southern part of Itain Island are planted with coconuts belonging to CHV.

d. FARNOESAN ISLAND—7° 05' S, 131° 39' E:

This small island lying just off the northern end of Jamdena Island is entirely planted with coconuts. The plantation was owned and managed by an aged German named Zumfelder.

e. MAROE ISLAND—6° 55' S, 131° 30' E:

Although the island is uninhabited, a plantation covers part of the southern half. It is owned in part by villagers living in Moloe Island and part by an Ambonese named Patti Radja Wani.

f. MATKOES ISLAND—8° 03' S, 131° 12' E (Map 10, Photo 18):

The northern half and about three-quarters of the west coast of Matkoes Island are covered by a coconut plantation. There is a short jetty in the small bay formed by the cape on the NE tip of the island. Behind the jetty there is a copra shed and coolie quarters. There is ample water from shallow wells mostly at the southern tip of the island.

3. Native Gardens:

There are clearings for gardens in the vicinity of all occupied places, but in no instance are they very large. The most important is at Cape Djasi at the SW tip of Jamdena Island, where there is a cleared plateau about 1400 yards east/west by just over a mile north/south. The gardens on this plateau have been made in lines radiating from several small villages. (Photo 19.)

4. Irritant Vegetation:

Stinging trees exist in all secondary growth on Tanimbar Islands. There are several types of these stinging trees and nettles. All types have large, velvety, heart-shaped leaves, purplish on the underside and covered with stinging hairs. When these come in contact with the skin, violent stinging sensation develops, and if a large area is affected the pain is severe, and in extreme cases could prove fatal. The pain lasts for a long time, and recurs when the affected part is washed, even weeks afterwards.

A natural antidote is not known, but emergency treatment which will give some relief is to rub the affected part with the inner bark of the stinging tree itself. The best antidote is the application of an alkaline agent, such as carbonate of soda or ammonia.

When cutting these trees care must be exercised to avoid inhaling any flying hairs, which will cause intense irritation of the membranes of the nose and throat. To prevent this, a handkerchief should be tied over the nose and mouth.

SECTION IX—RIVERS AND CREEKS

(See Maps 6, 9 and 10)

1. General Description:

Because of the generally low nature of the islands no river could be called swift-flowing. Ranarmoje is the only river of any size, and its course, from the eastern side of Jamdena Island across to the west coast a few miles north of Salwassa Bay, confirms reports that the little-known hinterland of Jamdena Island is a gradually sloping plateau.

Except for three small streams on Selaroe Island, the remaining rivers are also on Jamdena Island. Several short rivers flow to the east coast, and two enter the shallow Salwassa Bay on the west coast. Another river, the Oeloen, in the southern part of Jamdena, flows westward into Kolan Farnoier just north of Noes Kei.

2. Navigability:

Little is known of the rivers, but all are slow-flowing and muddy, and hold little significance as a means of water transportation or communication.

The rivers present an obstacle to foot travel, not because of depth, but because they are mostly crocodile-infested, and, in their lower reaches, fringed with mangroves.

3. Detailed Description:

a. RANARMOJE RIVER (Photos 23, 24 and 25):

Rises in the highest part of the central Jamdena plateau about 10 miles due west of Watmoeri village (on the east coast). It crosses the island in a meandering SW course and discharges into the sea about 2½ miles south of Makatian village on the west coast. Navigability of the river is unknown, but from photographs it appears that canoes at least could get some miles up-river.

b. TAMBRIAN, ATOEBOEL AND LORO RIVERS (Photo 41):

Three small rivers located in that order from north to south, which flow into the sea in the southern part of the east coast of Jamdena Island between the villages of Aroei Das and Toemboer. Each is nearly a mile wide at its mouth, and crocodile-infested. They must be crossed by rafts, and each is navigable for a few miles by native prahoe.

c. BOENGAL AND SALWASSA RIVERS (Photo 25):

Little is known of these rivers, which flow westward into the sago-swamp-fringed head of Salwassa Bay on the west coast of Jamdena Island. At best they would be navigable only for a few miles by native prahoe.

d. NORTH AND SOUTH KERAL (KEWAL) RIVERS (Photo 6):

Two small rivers flowing to the western coast of Selaroe Island just north of Lemian Anchorage. They flow throughout their entire lengths through mangrove and sago swamps, and are not navigable.

e. SITOLAR RIVER:

A small, unimportant river not more than two miles long which drains the mangrove swamps to the west of Olendir Anchorage on the NW coast of Selaroe Island.

SECTION X—LAKES AND SWAMPS

(See Maps 3, 9 and 10)

1. Lakes:

No lakes exist in the area.

2. Lagoons:

In Lingat Bay on the east coast of Selaroe Island there is a shallow lagoon with a western entrance to the sea, and mangroves at the eastern end. It is $1\frac{1}{2}$ miles long and about 400 yards wide, and is unimportant from a military point of view except that it forms an obstacle to movement by foot.

It is bounded on the north by the MT road running along the coast, and is separated from the sea to the south by a wooded neck of land about 250 yards wide.

3. Swamps:

Swampland areas of considerable extent occur along the western and northern coasts of Jamdena Island. The areas are uninhabited and little is known of them. Together with the fringing reef they probably form an effective barrier to inland movement. Most are mangrove-covered, but there is some sago, particularly around the head of Salwassa Bay. Additional but smaller areas of swampland exist on the southern parts of Seira, Seloe, Waliaroe and Larat Islands.

In the northern half of Selaroe Island are both sago and mangrove swamps, the sago being inland and the mangrove near the coast. Tracks run through the sago in some places so they are traversable at least in the dry season.

Just SE of Adaoet village there is a swamp which runs southwards from the southern end of the village for 800 yards. This swamp is fed by a network of sago-fringed watercourses which run approx NW into the southern end of the swamp.

SECTION XI—AIRFIELDS AND SEAPLANE BASES

A: AIRFIELDS, LANDING GROUNDS AND POSSIBLE AIRFIELD SITES

1. Operational Airfields:

a. SELAROE AIRFIELD— $8^{\circ} 15' S$, $130^{\circ} 15' E$ (Map 9, Photos 1 and 4):

The only known operational airfield in the Tanimbar Islands, a single strip, is situated on a MT road running from Lingat village to Cape Toewaoe in the southern part of Selaroe Island.

i. History and Status:

The strip is completely Japanese-sited and built. It was first observed being made in Jun 43, and was considered serviceable at the end of August the same year. No attempt has yet been made to improve the natural surface of the landing strip, although the enemy appears to place some value on it, for in Nov/Dec 43 he installed four heavy A/A guns there, and more have been installed since. The strip is seldom used.

ii. *Runway:*

The runway measures 5500 feet x 500 feet approx; is almost east/west, but inclined slightly toward ENE/WSW.

Dispersal lanes have been built running south from near each end of the strip to meet at a spot where the terrain rises and is suitable for the location of airplane inserts. This area is connected by a lane running to Cape Toewaoe, where there are two huts. The hill on Cape Toewaoe is probably used as an observation post, and should be an excellent radar site.

iii. *Possible Extension:*

Runway is capable of extension to the west to make the total length 8000 feet.

iv. *Terrain:*

Immediately north of the airfield is a flat, open area bounded by partially wooded higher ground on the east and NE. This higher ground continues to the SE of the strip, eventually meeting the terraced western side of the ridge which occupies the southern part of the island.

On the west of the strip is the small Toewaoe Peninsula, on which is a hill. To the south are a hill and small wooded areas which are used for dispersal. Beyond the hill the country is undulating for just over a mile, when the terraced ridge commences.

v. *Defences:*

There is a four-gun heavy A/A battery located 800 yards east of the strip. Just to the west of this battery are two light A/A positions which may be active.

An Air Force sighting of 27 Jun 44 reports possible radar installations about one mile from the southern tip of Selaroe Island. These installations consisted of three rectangular lattice-work screens mounted vertically, with the north side camouflaged with foliage, and the south side bare. There were several thatched huts near the screens and several more slightly to the west.

Extending approx 100 yards into the sea at the southern tip of Selaroe Island was what appeared to be a wire on poles.

For latest information see current Intelligence Summaries.

vi. *Dumps:*

Probable dump areas are south of the runway in wooded country and in the vicinity of the heavy A/A battery 800 yards east of the runway.

vii. *Communications:*

The strip is connected by MT road to Lemian Anchorage and Lingat Bay, which are the probable unloading places for incoming stores. It also appears that the road is being continued to Adaoet village, and it may already be completed.

viii. *Engineer Materials:*

Water supplies are unknown in the immediate vicinity of the airfield, but there are wells at the native villages nearby. Gravel and coral for surfacing are available from the hill just south of the runway. Timber is available in limited quantities in the vicinity.

2. Possible Airfield Sites:

a. SELAROE ISLAND—(Map 9, Photos 1 and 6):

The neck of land between Lingat Bay and Lemian Anchorage is quite flat. The ground is sandy over old coral and covered with grass and scattered trees.

A NW/SE runway with a maximum length of 5500 feet could probably be constructed fairly easily. The runway would cross the road at a point about 1000 yards from where it turns SW from the beach at Lemian Anchorage to cross diagonally over the neck of land. A second runway NNW/SSE could be constructed in the same locality.

Other sites can be found in this neighbourhood, but the direction of the runways on such sites would be across the prevailing winds.

Surfacing material in the form of old coral is abundant in the area, but both labour and suitable timber would be limited.

b. SAUMLAKI PENINSULA—7° 58' S, 131° 19' E (Maps 1 and 11):

Photos taken in Nov 43 show what appears to be a survey line about 1000 yards long running due eastward from a point about 500 yards east of the Saumlaki-Laoerang road. Prolonging this line westward would cut the road about $1\frac{3}{4}$ miles north of Saumlaki jetty. The terrain here appears to be suitable for the construction of an east/west air strip with a maximum length of 4800 feet. The area is covered with scrub but should not be difficult to clear.

Surfacing material is available in abundance from the limestone ridges southward of this site. Timber is plentiful and labour should be available from the nearby villages.

Communications are provided for by the motor road to Saumlaki, where the jetty and the safe all-the-year-round anchorage in the bay afford facilities for the landing of stores, etc.

c. MATKOE'S ISLAND—8° 03' S, 131° 12' E (Map 10, Photo 18):

This island lies at the eastern end of Egeron Strait between Jamdena and Selaroe Islands. The northern half and about three-quarters of the west coast are covered with a coconut plantation. There are two low hills, one at the northern end and another in the SE quarter of the island.

The Dutch had planned to construct two runways running east and west across the island in the saddle between the two hills. These runways formed a narrow X and were to be approx 4800 feet and 4500 feet respectively, with a width of 600 feet. The surface was to be of coral, which, however, is apt to blow away in the dry season, but remains hard and drains well in the wet season.

Construction on the runways was stopped in Dec 41 at a time when all the coconut trees had been felled and cleared on the longer of the two runways and most of the grading had been completed.

From photographs it appears that some of the coconut stumps have not been removed, nor the holes filled in, and that there are still rocky patches near the centre of the strip. Scrub up to six feet high covers the middle part of the ground.

Photographs indicate that there is no enemy activity on the island, and that no further work upon the runways has been done by the Japanese since their occupation of Saumlaki in Jul 42.

As the planned runways run from beach to beach, no extension is possible. The two hills prevent the direction of the runways from being altered to give a longer run.

The dispersal area is limited to the coconut plantation northward and southward of the runways.

An unlimited amount of dead coral from the hill south of the runways is available for surfacing. Good timber is not plentiful, but a limited supply can be obtained from the larger trees in the SE part of the island.

A suitable landing place could be constructed on the NW end of the island, where the coral reef is a little over 200 yards wide, by building a jetty to the fringe of the reef. This side is well protected during the SE monsoon, and fairly well protected during the NW monsoon by the island of Noestaboen and the south coast of Jamdena.

Paratroop landings could be made on the partly constructed runways.

d. ANGGARMASA ISLAND—(Map 10, Photo 18):

This island lies at the western entrance to Egeron Strait. The northern half is flat, and covered with secondary growth. The southern half comprises a flat-topped hill.

A site suitable for an airstrip was found by the Dutch approx 4500 feet long, running east/west near its centre, just north of the foot of the hill.

Water is obtainable in limited quantities from two shallow wells. Material for surfacing can be obtained from the hill, and there is a fair supply of timber available. (See also Sec IV-VI, Part A.)

e. CAPE DJASI—(Map 1, Photo 19):

This cape is on the SW tip of Jamdena Island. Eastward and northward of the cape the shore is cliffy, and on top of these cliffs is a plateau bounded on the north by a stream which discharges into a small bay about one mile north of the cape.

The area is nearly rectangular, and there are several villages around which are planted native gardens. There is a long wooded depression just north of the cape, and a second but much smaller one NE of the first. A dry watercourse runs from the small to the large depression.

It appears possible to construct a 5600ft runway between the two depressions mentioned above. Water should be available from the native villages, and surfacing material is obtainable from the rocky cliffs. Good landing facilities could be constructed on the north shore of the bay near the northern boundary of the plateau (see also Sec IV-VI, Part B, Sub-sec 2).

f. NOES KEI—(Map 1, Photo 18) :

Noes Kei is a peninsula on the SW end of Jamdena Island, eight miles northward of Cape Djasi. Clearing for a possible strip was sighted by Allied aircraft on 17 Jul 43, but photographs show that the peninsula is very swampy, with a river meandering through it. The mouth of this river is shown on Dutch Chart No. 382 (Map 7). It is possible, however, that the strip sighted lay farther to the east, where there is higher ground. Also the sighting may have been of a raised clearing in the peninsula which shows up very white from any direction, and which is probably an area of mud and perhaps coral. This latter clearing would not be suitable for an airfield.

g. SEIRA ISLAND—(Map 1, Photos 20 and 21) :

The village of Seira lies at the foot of a low bank on top of which is a large flat area which extends southward and SW of the villages. This area is open, having scattered small trees and low scrub on it. The surface is flat, but contains many loose stones, some of which have a diameter of up to two feet, and there are also said to be outcrops of rock. The area would be dry and hard even in the wet season.

Apart from this site there are two other clearings, one near the east coast and another near the west coast. Both appear to be suitable for airfield sites, but no first-hand knowledge about them is available.

Coral for surfacing, labour, and timber should all be available on the island. (See also Sec IV-VI, Part B, Sub-sec 3.)

h. LARAT ISLAND—(Map 1, Photos 33, 34 and 35) :

An area just east and SE of Larat village is cleared, but recent photographs indicate that it is definitely not suitable for an airfield site. However, the island of Larat as a whole is comparatively flat, and there are several areas which have been cleared for *ladangs*. As a general rule such *ladangs* are built on fairly flat areas, and it is possible that some of them would be suitable sites for the construction of airfields.

Suitable construction material and labour would be available on the island, but water is fairly scarce.

(See Sec IV-VI, Part B, Sub-sec 7.)

B: SEAPLANE LANDING PLACES AND POSSIBLE SITES

1. General:

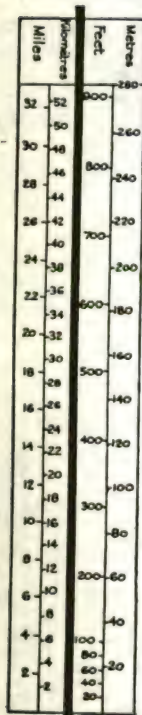
There are no operational seaplane bases in the area. However, there are sites which would be suitable as landing places.

2. Possible Sites:

a. SAUMLAKI BAY—(Maps 1 and 11, Photo 15) :

Saumlaki Bay offers a large area of water sheltered the whole year around, although occasionally during the SE monsoon a fairly heavy ground swell entering the bay from Egeron Strait may prevent seaplanes from taking off.

During the Dutch administration there were three Netherlands Navy-type seaplane mooring buoys in the bay. There are no slipways or other facilities, but there is plenty of local material available for construction. The village has a coral stone jetty about 500 yards long and 25 feet wide. The depth of water off the end is about five metres at LW.



b. JAMDENA STRAIT—(Map 1, Photos 24, 26 and 27) :

In the sheltered waters of Jamdena Strait it appears that several areas each a mile long could be found free of reef patches, with good depths of water. One such area is between the islands of Seira and Seloe, and another is between Keswoe Island and Makatian village (on Jamdena Island).

c. RITABEL HARBOUR (LARAT ISLAND)—(Map 1, Photo 33) :

This harbour, on account of the low terrain surrounding it, is not well protected at any time. However, it could be designated as an emergency landing area. It is $1\frac{1}{4}$ miles due north and south, and a quarter of a mile wide.

d. ADAOET BAY—(Map 10, Photo 2) :

This area has been suggested as a possible seaplane alighting area. However, the surrounding terrain is not high enough to protect the bay from the prevailing winds, and, as the bay runs NE/SW, seaplanes may be subjected to cross winds when taking off or alighting. The bay is too narrow in a NW/SE direction, except near the mouth, where there is considerable swell in both monsoons. It could, however, be designated as an emergency alighting area.

There is good anchorage, well protected in both monsoons, at the head of the bay.

SECTION XII—ROADS AND TRACKS

(See Maps 6, 9 and 10)

1. General Description of Communications:

Except on Selaroe Island and in the vicinity of Saumlaki town, land communication in the Group has been limited to the barest requirements.

Practically all inhabitants of the islands live on the coasts, and transport and communication are almost wholly by water. Any inland tracks are merely native pads, and little is known of them.

a. *MT Roads:*

The only tracks suitable for MT are those on Selaroe Island and near Saumlaki town, and near Larat village, which have been improved by the Japanese.

The track in Selaroe runs from Eliase village at the southern tip of the island along the west coast, then crosses the island past the airfield to Lingat village. It continues to Kandar with a branch track to opposite the landing place at Lemian Anchorage. From Kandar the track runs NE, and, although there is not good enough photo coverage to confirm it, there is probably a connection with the MT track running SE from Adaoet village. From Saumlaki the MT tracks run to Alilit and Laoerang villages on the east coast of Jamdena Island. At Larat the only evidence of the tracks is in photographs taken on 1 Jun 44. The coverage is limited, and the only information that can be given about the tracks is that they run inland from Larat village. It is not known where they end.

The roads are not surfaced and, especially in the wet season, could not take heavy traffic.

b. *Horse Tracks:*

The track from Saumlaki to Laoerang mentioned above continues along the east coast of Jamdena Island as far as Watmoeri, and is suitable for horse travel. The three small rivers between Toemboer and Aloesi villages are a mile wide at their mouths and must be crossed on rafts.

c. *Native Tracks:*

Remainder of the tracks are probably easy to follow, but information about them is lacking. In many instances they lead through swamp or forest country, and improvement would be difficult.

2. Detailed Description (All Distances approx):

a. Selaroe Island:

i. *MT Tracks—Eliase-Adaoet* (32 miles): From Eliase village to Werain the track shows evidence of having been used by MT, but only slightly, and the going is not good.

Leaving Eliase it passes over a low saddle to the west coast, and then follows the coast to Werain. North of Werain the track climbs a steep bank to cross the bluff at Cape Werain just north of the village, and descends again to follow the flat coastal strip of ground to Cape Toewaoe, where it turns inland, passes the airfield, and then runs through slightly higher and rougher ground to Lingat village.

From Lingat the track follows the shore of the bay around to Kandar village. A branch track runs across the narrow neck of the island to Lemian Anchorage.

It is known that the track continues to the NE running inland, and between the sago swamps which drain to both sides of the island in this northern part. Probably the track continues along the site of the old foot trail as shown in Map 10, and meets an MT track which can be seen running SW from Adaoet (Photo 2). It is noticed that in several places around the head of Adaoet Bay the track passes through swampy country, and it is probable that in the wet season the track will be impassable to all vehicles except perhaps jeeps. Just south of Adaoet village a small creek is crossed by a bridge and this bridge is defended by pillboxes.

From Kandar two branch tracks run NNW and disappear into wooded country. It is not known where these tracks finish nor their purpose, but there are some huts and gardens in the vicinity, and possibly the natives from Kandar are now living there.

ii. *Foot Tracks*: In the southern half of Selaroe Island the foot tracks run through generally open country which could easily be traversed without the tracks, and a detailed description is considered unnecessary. Map 9 shows the course of the tracks. There is one running along the coast from Eliase village, through Foersoei to Lingat. Also a track crosses the central ridge from Werain to Foersoei, and another runs along the NW foot of the ridge from Werain to Lingat. There is a maze of foot tracks just north of Lingat, and more in the narrow neck of land opposite the Lingat Bay landing place.

In the northern part of the island several of the tracks run through swampy country and passage off them would be more difficult. Before the Japanese occupation the tracks were travelled by the natives to a considerable extent and were in good order.

A track runs from Lemian Anchorage across the island to Kandar. It traverses open country passing along the northern edge of swampy ground two miles west of Kandar. A track from Kandar to Adaoet runs more or less parallel to the coast and about 1000 yards inland as far as Cape If Sifa. It runs through sago swamp for about two miles before it turns inland to meet the MT track at the head of Adaoet Bay. A branch of the above track continues along the coast from Cape If Sifa and turns inland at Roe Point. It crosses the peninsula through open country and then sago swamp, and meets the MT track two miles below Adaoet.

Other tracks lead from Adaoet village to cultivated areas on the peninsula. One of these follows the coast NE to Cape Adaoet, and another crosses the peninsula to *ladangs* and coconuts on the east coast.

From Namtaboeng a track follows the shores of Olendir Anchorage eastward for about five miles to some gardens near Sitolar River. A branch track is reported to join with the MT trail between Kandar and Adaoet somewhere about the head of Adaoet Bay.

b. Saumlaki-Alilit (three miles):

A MT track crosses Saumlaki Peninsula from Saumlaki town to Alilit village. From Saumlaki it passes through scattered secondary growth for about a mile, and then crosses the more wooded limestone ridges in the centre of the peninsula. Nearing Alilit the track again passes through lower vegetation and gardens, and enters the village from the SW between a high bank on the west and the shore on the east.

c. *Saumlaki-Laoerang* (five miles):

The track, sufficiently improved by the Japanese for MT, follows the coast northward from Saumlaki for two miles, when it turns inland and crosses the peninsula to Laoerang village.

Along the coast the terrain is fairly flat, but inland the track passes over hilly country partly covered with heavy timber and partly open (native gardens, along along and lantana). Before Japanese occupation, the bridges along this track were weak, and it is not known whether they have been improved or renewed since.

d. *Laoerang-Watmoeri* (55 miles):

The above track continues NE along the coast, but narrows past Laoerang to about two yards. It can be travelled by horses, but in many places is too narrow and rocky for jeeps.

Between Toemboer and Aroei villages the three small rivers, the Tambrian, the Atoeboel and the Loro, are difficult to cross as they are a mile wide near their mouths and are infested with crocodiles. It is necessary to make each crossing by raft. This stretch is somewhat hilly and the trail is narrow. The remainder of the trail to Watmoeri is in fair condition. The shore between Watmoeri and the northern end of Jamdena Island opposite Larat is muddy and swampy and cannot be walked. However, the distance can be traversed by going inland, and some reports indicate that a track exists. However, even inland much of the area is swampy and the going difficult.

e. *Alilit-Laoerang* (five miles):

A foot track runs north from Alilit through wooded limestone ridge country to Sifnana and thence to Laoerang. It is a well-used trail but traverses rough country.

f. *Ilnge-Wermatang* (19 miles):

The terrain crossed by this trans-island track is undulating, lightly wooded and covered with low undergrowth. It is easy going, with no serious obstacles to troop movements. Fresh water can be found in shallow, easily fordable streams all the year round. About halfway between Ilnge and Wermatang the Dutch had built two open sheds with *atap* roofs where troops using the trail used to rest. The journey from Ilnge to Wermatang took 12 hours on foot. The track continues along the southern shore of Salwassa Bay to Otimer village.

g. *Makatian - Loro Oemboeng* (30 miles) and *Makatian - Amdassa* (22 miles):

These tracks have been reported, but there is no other information about them. The terrain is densely wooded, and near the east coast the going may be fairly rough.

h. *Latdalem-Lermatan* (eight miles):

This is reported to be a good trail, used to some extent by villagers when the seas are high in Egeron Strait. The only information available is that the trail crosses a small river in a deep ravine about 30 yards wide by a primitive footbridge formed by the trunk of a large tree laid across the ravine.

i. *Latdalam-Wermatang* (20 miles):

This is another reported track about which little is known. This western coast of Jamdena Island is low and swampy, and probably the track is some distance inland in the undulating country. Also it is not known whether Oeloen River can be waded or must be crossed by raft.

j. *Seira Island*:

Foot tracks run from Seira village to the south and east coasts. The terrain is slightly undulating and covered with low scrub.

k. *Moloe Island*:

Footpaths connect all the larger villages on Moloe. A good government track runs along the west coast parallel to the shore from Adoda to Noerkaät on the southern tip of the island. Also trans-island tracks run from Woenlah at the southern extremity of Loka Bay to Woelmasa and Noerkaät.

1. *Larat Island* (28 miles) :

In addition to MT tracks in the vicinity of Larat village shown in recent photographic coverage and mentioned under 1 (a) of this Section, an excellent trail runs from Larat village around the northern and eastern shores to Lamdessar Timoer. It is travelled from village to village, particularly when the seas are high in the NW monsoon. The usual mode of travelling is by prahoe. The trail is usually 50-200 yards from the shore, running underneath the coconuts and around the fenced-off gardens. Grades are moderate, and there are bridges over several small streams. It is almost good enough for cycling, but the only section actually so used is the stretch between Lamdessar Barat and Lamdessar Timoer. The sandy beaches and wide coral reefs can be followed at LW, and are perhaps preferable to the trail. At HW the trail is more satisfactory.

m. *Fordate Island*:

All the villages on Fordate are on the western and southern coasts, and they are connected by a good government track running near the shore. Just north of Roem ngewoer the track crosses a creek by a footbridge.

SECTION XIII—TRANSPORT

1. **General:**

The native transport in this area follows the general pattern found throughout Dutch New Guinea and the small islands in the Netherlands East Indies, i.e., wherever possible prahoes are used in preference to walking. Distances between the islands of the Tanimbar Group are small, and Jamdena Strait, west of Tanimbar, is an excellent passageway for small craft in almost all weathers.

The trails along the coasts were in many cases improved by the Government, and were kept in good repair by the villagers, who did a certain amount of work of this nature in lieu of paying taxes. These trails were usually travelled on foot, but along the east coast of Jamdena Island the missionaries and others often used horses in going from place to place.

2. **Native Craft:**

Much of the local transport in the group is by large ocean-going prahoes of the high-stern, low-bow type, but from this type of vessel there were all graduations down to tiny dugouts.

3. **Vehicles:**

There were no vehicles in the islands.

4. **Native Carriers:**

Although there are plenty of natives, difficulty would probably be experienced in getting a good team. They are easy to handle but are lazy and unreliable. (See Sec XVI, Sub-sec 8 and 9.)

SECTION XIV—SIGNAL COMMUNICATIONS

1. **Telephone and Telegraph:**

No facilities.

2. **Postal System:**

There was an auxiliary post office at Saumlaki and another at Larat.

3. **Wireless Stations:**

Before the Japanese occupation there was a small wireless station at Saumlaki, but it was destroyed when the enemy arrived in Jul 42. It communicated with Ambon and Bandoeng, and later with Darwin.

SECTION XV—TOWNS, VILLAGES AND MISSIONS

1. Towns:

a. SAUMLAKI—7° 58' S, 131° 18' E (Map 11, Photos 16 and 17):

i. Location:

The small town and mission centre of Saumlaki is built on gently rising ground on the eastern side of Saumlaki Bay, at the southern end of Jamdena Island. Though it is unimportant from a commercial or economic point of view, it was formerly the administrative centre for the Tanimbar Group and the chief port. It was visited at regular intervals by vessels of the Royal Mail (KPM).

ii. Population:

Before the Japanese came Saumlaki's population was not more than a dozen Europeans, 30-40 Chinese, 500-750 islanders, including Ambonese, Menadonese, Kaiese, Timorese and Javanese, and several hundred Tanimbarese, including those at the Catholic missionary schools. The Europeans included the Controleur (Mr. H. H. P. Leenarts), an inspector of police, a Catholic priest (de Raad), five lay brothers and several nuns.

iii. Buildings:

Seen from the bay the most prominent buildings in the town are the three-storey nuns' quarters of the Catholic Mission standing on the highest part of a low, gently rounded hill to the rear of the town, and the Controleur's house near the seashore. The church and other mission buildings are hidden behind heavy foliage. The nuns' quarters and the dormitory of the lay brothers, with two storeys, are the only two buildings in the town with more than one floor. The *pasar* (market), Chinatown, and the commercial section lie north of the end of the jetty. All European buildings have corrugated iron or ironwood shingle roofs, and cement, tile or wooden floors. There is a small jail and police barracks. About 1000 yards south of the town is a government leper hospital with accommodation for about 30 patients.

iv. Food:

The amount of imported food consumed in Saumlaki was very small. Imported rice, canned meals and fish were used in very moderate quantities. Native vegetables, maize and *ladang* rice were the main articles of food. When a few dozen refugees arrived just before Japanese occupation the food situation became serious. Even this small addition was enough to disturb the delicate balance between supply and demand.

v. Water:

Saumlaki obtains its water from a spring situated in the hills about a mile to the rear of the shore. It is piped to all the larger buildings, and is also available in the market. The supply becomes meagre during the dry season, and is usually shut off for certain periods each day. Most of the larger houses have concrete tanks in their backyards which were filled during the wet season and used during the drier months.

vi. Hinterland:

A low, gently rounded hill lies at the back of the town. It is just high enough to permit an observer standing on its summit to see over the nearby houses of the town and get a good view of the jetty and shoreline. If the town is defended, this hill will probably be occupied, as well as the low bluffs along the seashore. A scrubby and patchy forest extends back from the hill. The chief cultivated area lies to the north of the town, not far from the shore. Here the natives have gardens, coconut trees and small patches of maize. To the east and south cultivation is much more scattered, and most of the area is covered with a rather open and scrubby type of vegetation, with occasional patches of alang alang grass.

2. Villages:

General: The larger Tanimbarese villages have populations of 500-2500 people. All, both large and small, are situated on or near the seashore, or on low hills overlooking the sea. In former times, when wars were frequent among the various tribes of Jamdena, or between the people of Jamdena and their neighbours on Larat or Selaroe Islands, there were settlements in the interior surrounded by stout stockades of wood or stone. In recent years under the influence of the Netherlands Colonial Government the people have all moved down to the more healthy and comfortable climate along the coasts.

Villages usually have one or two unshaded streets, often with an open space for football or sports. The houses originally seem to have had a square, earthen floor over which stood a steep, pointed roof. Under this roof were hung long rows of *jagoeng* (maize), cassava and other vegetables where they would catch the smoke from the fire in the middle of the floor below. The thatch roof sloped more gently near the ground, and this allowed room for a wooden platform about three feet high built around the square floor. On this platform the family slept and spent most of its time when not squatting around the fire below. This type of house is still in use in the more primitive villages.

In recent years, through the influence of church and government, the old type of house has been changed. Most native houses now have two or more rooms, and all have floors several feet off the ground. They are also comparatively well ordered and clean. The roofs are still of thatch or *atap* (palm leaves), with the inner walls of bamboo or sago palm. They are windowless, as are most native houses in the East Indies.

During the harvest season the villages are practically deserted except for the police, the schoolmaster and a few others. The remainder live, feast and make merry near their ripening crops.

a. ADAOET—8° 07' S, 131° 07' E (Map 10, Photos 2 and 8) :

The small port of Adaoet at the NE end of Selaroe Island was a regular port of call for steamers of the KPM. The village was small and had only one European building, a *godown* near the shore. Population was about 500. Recent photographs show that practically all the houses have now been either destroyed or removed. A small, well-constructed, stone pier is still intact.

b. LARAT—7° 07' S, 131° 43' E (Map 6, Photos 33 and 34) :

Recent photographs reveal that, as a result of Allied bombing, not a building is left standing in the main part of the village. Some have probably been removed to safer parts of the island.

The village previously had an estimated population of 1500, with some modern, European-style houses to the NW of the end of the jetty. The jetty is still standing; it is small but well constructed, with an L-shaped head. Constructed of coral, stone and timber, the jetty is about 300 feet long and about 20 feet wide. Depth alongside is 15 feet at LW.

Native vegetables, maize, and *katjang idjoe* (a small green pea) are grown locally, but in limited amounts. Drinking water was obtained from cement cisterns behind individual houses, while washing water was obtained from a spring situated near the NW end of the main street.

The supply was ample, but not sufficient for any additional population. In Boegis, which was the native and Chinese part of the town, water was obtained in part from shallow wells and in part from catchment.

Coconut palms are found both to the north and south of the village.

3. Missions:

The population of Tanimbar was largely Christian. The Catholic influence predominated along the well-populated SE coast of Jamdena Island, and in several large villages elsewhere such as Lamdessar Timoer on Larat Island, Aweer and Sofianin on Fordate Island, etc. Native Catholic teachers were stationed in all the larger villages.

Mohammedan villages are healthy, probably because of the strict Mohammedan rules with regard to personal cleanliness and abstention from alcohol. (See Sec XIV, Sub-sec 8.)

Mohammedan missionaries were not very active.

Chief Catholic mission centres were:

a. SAUMLAKI: One priest, five lay brothers and several nuns. There were two large buildings, one for the lay brothers, the other for the nuns. In addition, there were a hospital, church, schools and recreation grounds. The mechanical, wood-working and boat-building schools were a feature of this mission. Students acquired practical knowledge of wood-working and some of metal work with fairly up-to-date tools. The influence of the school was felt throughout the Tanimbar Group in better house construction, better furniture and better care of garden tools.

b. ALILIT, SIFNANA AND LAOERANG: A European priest spent a third of his time in each of the three villages of Alilit, Sifnana and Laoerang. Each village had a church and a European pastor's house as well as a school teacher (*goeroe*) and a native school.

c. ALOESI VILLAGE: The native Catholic priest in Aloesi was in charge of the entire coastal area of this section of the eastern coast of Jamdena.

d. LARAT VILLAGE: A native priest and one lay brother.

e. KILMASA (East coast of Jamdena Island): One native priest.

Protestants maintained native teachers in nearly all the larger villages and settlements. Chief centres were:

a. SAUMLAKI: An Ambonese teacher and pastor.

b. LARAT VILLAGE: An Ambonese teacher.

c. MOLOE ISLAND: Ambonese teacher and large mission.

d. SELAROE ISLAND: All the villages on this island are Protestant.

SECTION XVI—RESOURCES

1. Foodstuffs:

The staple diet was originally sago, but in recent years its place has been usurped by *jagoeng*, or maize, augmented by *ladang* rice, vegetables, coconuts, fish, pork and some wild buffalo meat. Sago is still part of the natives' diet, and sago trees are grown in all swamps near inhabited places as a reserve food supply for years of crop failure. Many of the ordinary crops are harvested twice a year, so there is little danger of actual famine.

a. Vegetables and Fruits:

In recent years the cultivation of upland or *ladang* rice has become fairly extensive on the hillsides on the east coast of Jamdena Island. There was even a small export of rice, together with *katjang idjoe*, a small, hard, green pea rich in vitamins which is eaten as a supplement to rice in order to prevent beri beri and other deficiency diseases. *Katjang idjoe* is grown on Larat Island, and also on the east coast of Jamdena.

The sago of the villages of Wermatang and Makatian, on the west coast of Jamdena, is important for the supply of Saumlaki and adjacent villages.

Sugar-cane is grown for home use. The sugar palm (*gula areng*) is grown in many villages. Sugar from this palm has an excellent flavour, being vaguely like that of the maple sugar of North America. Wine and distilled spirits are made from the *greng* palm as well as from the coconut.

As well as the above, the usual tropical fruits and vegetables grow wild and in gardens. These include breadfruit, bananas, pawpaw, pandanus, sweet potatoes, yams, taro, cassava and pineapples.

b. Meats, Poultry and Fish:

Pigs are abundant in all Christian villages, and pork is the meat ordinarily seen in all Christian market places.

Wild buffaloes are limited to the southern part of Jamdena Island. Turtles are found on the small island of Karata, which lies between Namwaan and the northern part of Jamdena.

Trepang is exported from Moloe, and fish are abundant. They are taken in nets, on hook and line, or caught over the coral reef in bamboo fish traps.

There were 20-30 head of cattle at Saumlaki, and also 30-40 horses. A few goats are to be found at villages throughout the island.

2. Forage:

No forage is known to have been grown as such. The few cattle, horses and goats existed very well on the natural grasses of the region.

3. Fuel:

There were no fuel stocks of any importance in the locality.

4. Construction Materials:

a. Timbers:

Very little is known of the timber trees, but it seems evident that both hardwood and softwood would be available in the large areas of forest. However, there were no sawmills in the area, so probably good timber is scarce. There is ironwood on Larat Island, and probably in other areas. The timber available should be suitable for at least temporary construction. Yellow wood exists in some places; it is a hardwood, but of no great size.

b. Leaf and Rib Materials:

i. *Sago*: The extensive sago swamps form a large potential supply of material for walls and thatch for roofing.

ii. *Pandanus*: These trees are found in small numbers. The leaves may be used to make a thatch similar to the sago *atap*.

c. Bamboo:

Is generally available, but quantities, sizes and exact locations are unknown.

d. Limestone and Coral:

Either may be found in most of the hilly islands of the group.

5. Water:

a. Availability:

During the rainy season (December-May) the problem is not so much to find water as to get rid of it. In the dry season, however, the main source of supply is from shallow wells at the many villages, and in a few places from springs.

Wells should not be dug too deeply, as the less salty water is found near the surface.

b. Treatment:

Owing to the use by the native population and the danger of pollution, all drinking water from wells should be boiled or chlorinated.

6. Minerals:

No trace of minerals or oil has been reported.

7. Repair Facilities:

Nil.

8. Native Labour:

Adequate native labour is available near all inhabited areas. The natives are less robust than the average Papuan, but somewhat heavier than the Timorese. Although they are easy to handle, they are lazy and do not accomplish much work. The Tanimbar native takes life philosophically and troubles little over anything beyond his immediate living requirements. Drunkenness is prevalent amongst the men, and to some extent amongst women and children. (See also Sec XVII, Sub-sec 4.)

POPULATION MAP



• LEGEND •

Densely Populated
Sparsely Populated
Uninhabited



Owing to lack of detailed information, boundaries of areas must not be taken as exact. They are a general indication only....

MAP 4

9. Currency:

All the natives were accustomed to the Dutch currency, which was standard throughout the Netherlands East Indies and Dutch New Guinea.

The currency was based on the decimal system. The basic unit was the florin or guilder, made both in paper and silver coin, and equal to 100 cents (sen).

The following divisions were standard:

Paper (*Wang Kertas*):

| | |
|-----|---------------------------|
| 1 | guilder (<i>roepia</i>) |
| 5 | " |
| 10 | " |
| 25 | " |
| 50 | " |
| 100 | " |

Silver (*Wang*):

| | |
|-----|---|
| 10 | cents (<i>sepoeloesen. Sepitjis or ketip</i>) |
| 25 | " (<i>doeapoeloe lima sen. Setali</i>) |
| 50 | " (<i>limapoeloe sen. Setenga roepia</i>) |
| 100 | " (<i>seratoes sen. Roepia</i>) |
| 250 | " (<i>doearatoes limapoeloe sen. Ringgit</i>) |

Copper and Alloys:

| | |
|----------------|---------------------------------------|
| $\frac{1}{2}$ | cent (<i>setenga sen</i>) |
| 1 | " (<i>satoe sen</i>) |
| $2\frac{1}{2}$ | " (<i>doea setenga sen. Gobang</i>) |
| 5 | " (<i>lima sen</i>) |

In addition to using the above currency, the usual form of barter of trade goods is practised by the natives.

SECTION XVII—POPULATION

(See Map 4)

Total population of the Tanimbar Group is estimated at 35,000.

1. European:

Before the Japanese occupation the European population comprised the following:

| <i>Position</i> | <i>Location</i> | <i>Name</i> |
|------------------------|-----------------|-----------------------|
| Controleur | Saumlaki | Mr. H. H. P. Leenarts |
| Inspector of Police | " | Mr. Altdorf |
| R.C. Father | " | Pastor de Raad |
| Five R.C. lay brothers | " | — |
| Several nuns | " | (Most were Germans) |
| Planter | Farnoosan I | Zumfelder |

2. Asiatic:

There were no Japanese in Tanimbar.

The Chinese numbered about 100. The majority were in Saumlaki, the remainder in Larat, Adaoet and other coastal villages. They were small shopkeepers, pedlars and artisans. Generally speaking, they usually put their own profit and self-interest first, and it is believed that they offered no resistance to the Japanese.

3. Indonesian:

Islanders from other parts of the Netherlands East Indies numbered several hundreds. They were Ambonese, Kaiese, Menadonese, Timorese, Boeganese, Javanese, etc., and included most of the school teachers, priests, minor government officials, police, artisans, shopkeepers, etc. Most, except the Javanese, Boeganese and Timorese, were Christian.

4. Native:

a. Character, Customs:

The natives of Tanimbar are of the Papuan type, black, with either straight or frizzy hair, well proportioned but not very strong. They are less robust than the average Papuan, but somewhat heavier than the Timorese. Although easy to handle, they are lazy, and do not accomplish much work. Indeed, in this out-of-the-way island group, there is little incentive to work, so the native takes life easily, and troubles little over anything beyond his one or two food crops each year, and fish in the nearby seas. Even the limited work that is done is mostly carried out by women.

Drunkenness is prevalent amongst the men and to some extent amongst women and children, especially at harvest time, when merry-making becomes widespread and prolonged.

Football is the most popular sport. This was formerly encouraged by the Government. The interest and rivalry in the game became so intense that players were inspected before the game for small weapons. The games often developed into free-for-alls, so that finally the Government ceased presenting prizes and in a few years the games became more orderly.

Community singing is a feature of Tanimbarese life. Stimulated by their palm wine, the natives will sing the whole night through on any kind of an excuse such as a good harvest, a marriage, or the building of a new house.

The typical dance is a huge hand-in-hand circle which slowly revolves around the village square with a lot of complicated footwork. Drums and the bamboo flute are always in evidence.

b. State of Civilisation:

The natives have been under Government control for several years. Most of the larger *kampongs* have *goeroes* (native teachers) stationed there. They gradually improved the houses, gardens and general living conditions as well as teaching the Malay language. In general, the state of civilisation has been greatly improved, but it is still not of high standard.

c. Languages:

Almost all the younger people have attended school under native or Ambonese *goeroes* or school teachers. These can read and speak Malay.

Apart from this more recent teaching of Malay, there are five languages spoken in the Tanimbar Group. The language spoken by the greatest number of individuals is Jamdenese, which is used on the whole east coast of Jamdena and in the village of Adaoet (Selaroe I).

Fordatese is spoken on the islands of Fordate, Larat, Moloe and Seira.

Selaroesse is spoken on Selaroe Island and by a few people in Latdalem village on the SW coast of Jamdena Island.

The villages on the southern shores of Salwassa Bay have their own language, as also have the villagers of Makatian on the west coast of Jamdena.

All the above languages are related with each other, and also with the Kaiese, Ambonese, Timorese and Rottinese languages.

d. Sympathies:

It is well understood that a primitive population is inclined to favour that party which is on top for the moment. Since the Tanimbarese are aware that the Netherlands Government had to withdraw from the islands, it can be expected that Allied troops will not immediately receive active support from the natives. On the other hand, reports have indicated that the population has resented the imprisonment and killing of priests, and this may cause them to give active support to Allied troops as soon as they appear.

While passing through Larat in Aug 42 just after the enemy occupation of Saumlaki, certain officials learned that the population considered the Japanese, who stole what they could get hold of, as "rough and badly educated people." However, since then the Japanese might have pacified the natives.

Detailed information about the reliability of individual Tanimbarese can be obtained on application to G-2, GHQ, SWPA.

SECTION XVIII—ADMINISTRATION

1. Dutch Administration:

Tanimbar Islands formed the subdivision Tanimbar Eilanden of the division Toedal of the Residency of the Moluccas. The group was divided into the two districts, Saumlaki and Larat. The Controleur of the subdivision resided at Saumlaki. There was an Indonesian Government Assistant at Larat.

The native administrative unit is the *negeri* (the village), and administration lies in the hands of the village Council. The Council comprises:

Village chief (*orang kaja*).

Heads of the nobility (*kepala soa*).

Other functionaries according to native law.

The divisions of the village Council are made only after a deliberation between its members and the population. In exceptional cases the whole population of the *negeri* is assembled for a large Council.

Characteristic of this area is the considerable influence of the younger generations and women in the village community.

2. Police:

Normally there was a police force comprising a Chief of Police and 23 policemen in Saumlaki, and seven policemen at Larat. This force was militarised on 10 Jun 42 by 13 soldiers under an Ambonese serjeant. The military garrison was armed with one Lewis machine gun and 13 Thompson sub-machine guns.

SECTION XIX—MEDICAL PROBLEMS

1. General:

The Tanimbar Group may be classed as reasonably healthy. Malaria is the most prevalent disease.

The climate is similar to that of surrounding areas, and tends to be most trying during the inter-monsoon period, when the winds are light and variable, and the atmosphere humid and oppressive.

2. Diseases:

a. MALARIA:

Malaria is the commonest complaint among both newcomers and natives, although after repeated attacks in childhood the native acquires an immunity.

The islands are stated to be less malarious than the New Guinea mainland, although no figures for spleen rates are available to give an approx numerical comparison.

Both benign tertian and subtertian forms of the disease are encountered.

The mosquito vector is *Anopheles punctulatus* and its variety *moluccensis*, which are types breeding in sunlit collections of ground water, from hoofprints to puddles and swamps and in empty food cans, trenches, etc.

Control measures for these mosquitoes are already familiar to troops as a result of New Guinea experience.

b. DYSENTERY:

Small epidemics of bacillary dysentery occur at times among the natives, but have usually been mild in character. In all areas occupied by the Japanese, however, dysentery has tended to spread, and, notwithstanding the mildness of pre-war epidemics in an area, all precautions should be taken by troops entering that area to ensure the sterilisation of water and protection of food from infection through flies, dust, and any other source of contamination.

c. CHOLERA:

Cholera was not recorded in the area for some years prior to the war, but in view of the fact that this disease is known to have spread in SWPA far beyond pre-war boundaries precautions should be taken in anticipation of the possibility of encountering this disease at any time.

As is the case in all areas which have been occupied by the Japanese, the maintenance of the highest practicable standards of hygiene, including sterilisation of water, is essential as a precaution against cholera, dysentery (bacillary and amoebic), typhoid and para-typhoid fever, and other enteric diseases which may be encountered at any time, both among the Japanese troops and in the native population.

d. TROPICAL ULCER:

As elsewhere in the humid tropics, any small scratch may rapidly develop into a spreading ulcer unless promptly treated with an anti-septic dressing. Tropical ulcers are most frequently seen on the lower parts of the legs of natives, probably following thorn scratches and insect bites.

e. FRAMBOESIA (YAWS):

This disease, characterised by crusted sores in its secondary stage, is prevalent. It readily responds to NAB injections, and its incidence has tended to decrease in recent years. Although the disease is not usually transferred to white men, infection by contact is possible.

f. PULMONARY DISEASES:

The natives are very susceptible to pneumonia, pleurisy and other lung diseases, especially during the change of seasons. Pneumonia is one of the complications of influenza in the native.

g. TUBERCULOSIS:

Tuberculosis, while rare among the rural population, is prevalent among native office workers and teachers.

h. LEPROSY:

The majority of cases of leprosy treated at the leper hospital near Saumlaki came from Selaroe Island.

i. TINEA:

Tinea imbricata, a scaly skin disease also known as *Dajaksche Schurft*, was common.

Cases of *tinea circinata* or ringworm also occurred, and *tinea albigena* ("surfer's foot") and *tinea cruris* ("Dhobie itch") were not unknown.

j. SCABIES:

Scabies occurred fairly frequently among the natives.

k. TETANUS:

Occasional cases of tetanus were seen.

l. SMALLPOX:

The Dutch authorities maintained a vaccination service, and no recent outbreaks of smallpox are recorded.

3. Hospital Accommodation:

In Saumlaki there was a mission hospital, in the charge of a native doctor, with accommodation for 36 patients. The equipment was simple, but minor operations could be performed.

A short distance south of Saumlaki the Government maintained a leper hospital which usually had 20-30 patients.

4. Pests:

a. Mosquitoes of various types are widespread, especially in the low, swampy areas.

b. Flies and sandflies occur to a similar extent to that in neighbouring islands.

5. Dangerous Animals:

Crocodiles are found in many of the rivers in the islands.

6. Stinging Plants:

A species of stinging tree is plentiful in the islands (see Sec VIII, Sub-sec 4).

SECTION XX—CLIMATE AND METEOROLOGICAL CONDITIONS

This information is supplied by Director RAAF Meteorological Services.

1. Rainfall:

a. General Description:

The year is divided into two well-defined seasons, dry and wet. The east monsoon is dry, the west monsoon is wet. For Saumlaki the dry season is from July to October or November, the wet from December to May or June.

Over land, rainfall generally occurs during the afternoon and evening hours, whereas on the coast there is a tendency for it to fall during the night and early morning.

The rainfall is of the intermittent type, occurring mostly in heavy showers of short duration, often associated with squalls.

b. Rainfall Averages:

Yearly and monthly rainfall averages in inches for Saumlaki, and estimated average number of rain-days, are given in the tables below.

| | Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec | Year |
|-------------------|-------|------|------|------|------|------|------|-----|-----|------|------|------|------|
| Average | 10.51 | 9.41 | 7.99 | 9.53 | 9.02 | 5.75 | 2.56 | .75 | .24 | 1.22 | 2.28 | 8.44 | 66.7 |
| Rain Days | 18 | 16 | 15 | 15 | 10 | 8 | 5 | 5 | 4 | 5 | 8 | 15 | 123 |

The maximum and minimum monthly falls are not known, but for the wet months (from December to May) amounts of 20 inches would probably be the maximum, and one or two inches the minimum amounts. In the dry months the maximum amounts are estimated at four to eight inches, the least being only a few points or no rain at all.

2. Winds:

The prevailing winds are seasonal in character. The NW monsoon blows from November till March or April, being occasionally interrupted by strong SW winds, and less frequently by north winds and calm periods. The SE monsoon, which blows from April till October or November, is steadier and its velocity is more uniform than is the case with the west monsoon.

Land and sea breezes are not important.

The feature of the southern section of the Banda Sea, in which the Tanimbar Group lies, is the very great steadiness of the monsoons.

The following table gives the monthly mean wind conditions over the southern parts of the Banda Sea. These should apply to a great extent to Saumlaki.

| | Direction | Velocity (mph) | Steadiness (per cent) |
|-----------|-----------|-------------------|--------------------------|
| January | WNW | 10 | 89 |
| February | WNW | 15 | 89 |
| March | WNW | 8 | 31 |
| April | SE | 8 | 59 |
| May | ESE | 10 | 88 |
| June | SE | 10 | 76 |
| July | ESE | 10 | 93 |
| August | SE | 9 | 96 |
| September | SE | 8 | 92 |
| October | SE | 8 | 74 |
| November | SE | 7 | 57 |
| December | WNW | 7 | 47 |

Tropical cyclones occasionally occur during April. These cyclones are much less intense than the typhoons of the Philippines. In Apr 25 a cyclone lasting two days occurred on Jamdena and Selaroe. On Selaroe 10 persons were killed, houses damaged, coconut trees blown down, and plantations destroyed by sea water.

Rain squalls are fairly frequent and can be expected mostly in the west monsoon. They occur most frequently in December and February over the Banda Sea to the north, and it is assumed that these squalls will affect Saumlaki most frequently in those months also.

The squalls, being associated with large cumulo-nimbus clouds, occur more often in the afternoon hours when these clouds are well developed.

Maximum gusts approach 60 mph in the more severe types. The incidence of the squalls is very local, and of short duration, usually less than 30 minutes.

3. State of Sea:

In general, the sea is relatively calm over the southern part of the Banda Sea. Over the Arafura Sea to the south the condition of the sea seems to be fairly good.

Strong winds, when they occur, soon affect the sea, and moderate seas and swell will quickly develop.

4. Fogs and Visibility:

No specific information is available, but in general there exists a typical difference between the wet and dry seasons. In the rainy season the greater transparency of the air makes distant objects more clearly defined. In the dry season a haze which is not only limited to the land but occurs also at sea, makes its appearance. The haze becomes denser as the SE monsoon increases in strength, July to October being the worst months. During these months the haze may reduce visibility to less than six miles.

Toward the end of the dry season, when the haze is thickest, a dry fog is sometimes formed, which is directly attributed to the haze. This fog usually dissipates after sunrise.

5. Cloud:

No special data is available for Saumlaki.

Some indication of the cloudiness may be given by the following table, which shows the mean monthly cloud amounts in tenths of sky cover over the Timor Sea:

| Jan | Feb | Mar | Apr | May | Jun | Jul | Aug | Sep | Oct | Nov | Dec |
|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|-----|
| 6 | 5 | 3 | 4 | 3 | 4 | 2 | 2 | 4 | 3 | 4 | 6 |

This shows that the westerly monsoon or wet season is the more cloudy.

In the west monsoon cloudiness is greater in the daytime, when much convectional cloud, cumulus and cumulo-nimbus, which is dependent on solar heating, occur.

This type of cloud grows overland from small cumulus at 0900 hours to huge thunder clouds by early afternoon. In the late afternoon and evening heating ceases, rain falls and the clouds subside again.

Much high and middle cloud, which is absent to a great extent in the dry season, exists in the wet season when clouds are of the cumulus or lower stratus type. The latter form in the early morning and often stretch out for some miles in sheets (see Photo 38). During the dry season, however, scattered cumuli are the most common clouds.

6. Temperature:

There is no data available for the islands, but the monthly mean temperature probably varies no more than $2\frac{1}{2}^{\circ}$ F throughout the year. The yearly mean of air temperature probably stands at about 81° , with the greatest extremes being no more than 15° or 17° F above or below that figure.

7. Effects of Climate and Meteorological Conditions:

The humid, enervating conditions which are a feature of the climate of all sea-level tropical stations are mitigated to some extent at Saumlaki by the steadiness of the winds from the sea in each of the seasons. The relatively calm periods between the monsoons are the most trying, as winds are light and variable, and hot, oppressive, thundery conditions prevail.

The winds of the monsoons are of sufficient strength and regularity to cause vessels to seek sheltered waters, even if it involves a much longer journey.

SECTIONS XXI—SOURCES OF INFORMATION

1. Publications and Reports:

Encyclopaedie Van Nederlandsch Oost-Indië, 1921.
Het Leven van der Tanembarees, by Drabbe, 1940.
Zeemansgids voor Nederlandsch Oost-Indië, Vol III, 1933.
KPM Nautical Instructions.
Eastern Archipelago Pilot, Vol III, 1930.
Sailing Directions of New Guinea (HO No. 164, USN Dept), 1936.
Report by RAAF Engineer Intelligence Section, Tanimbar Islands, 1943.
School of Public Health and Tropical Medicine, Commonwealth Health Department.
Combined Advisory Committee of Tropical Medicine, Hygiene and Sanitation, GHQ, SWPA.
HQ, AAF.
NEFIS.

2. Persons With Local Knowledge Interviewed:

A list of the above will be forwarded to approved personnel on application to G-2, GHQ, SWPA.

APPENDIX "A"

GAZETTEER OF PLACE NAMES

*Asterisk indicates places outside area covered by Study.

| | Miles from Saumlaki | Direction | Location |
|---------------------------|------------------------|-----------|--|
| ABAT Vil | 82 | NNE | South coast, Moloe I. |
| ADANAR I | 32 | SW | In Lingat B, east coast, Selaroe I. |
| ADANAR Pt | 34 | SW | In Lingat B, east coast, Selaroe I. |
| ADAOET B | 18 | SW | North coast, Selaroe I. |
| ADAOET Vil | 16 | SW | In Adaoet B. |
| ADAOET C (ADAOET TOEBOEN) | 13 | SW | NE tip, Selaroe I. |
| ADODO Vil | 89 | NNE | West coast, Moloe I. |
| ADODOE Vil | 81 | NE | West coast, Fordate I. |
| ALILIT Vil | 24 | E | SE coast, Jamdena I. |
| ALOESI KARAWAIN Vil | 31 | NE | East coast, Jamdena I. |
| ALOESI Vil | 30 | NE | East coast, Jamdena I. |
| AMAT DAWAH Hill | 42 | NW | Seloe I. |
| *AMBON Town | | | West coast, Ceram. |
| AMDASSA Vil | 19 | NE | East coast, Jamdena I. |
| ANGGARMASA I | 14 | WSW | Off SW point, Jamdena I. |
| ARKOESOE C | 41 | SW | SE tip, Selaroe I. |
| ARMA Vil | 47 | NE | East coast, Jamdena I. |
| AROEI C | 23 | NE | East coast, Jamdena I. |
| AROEI BAB Vil | 23 | NE | East coast, Jamdena I. |
| AROEI DAS Vil | 24 | NE | East coast, Jamdena I. |
| ARO OESOE C | 44 | SW | SW tip, Selaroe I. |
| ASOETOEBOEN I | 4 | S | South of Saumlaki Pen. |
| ATOEBOEL DOL Vil | 15 | NE | East coast, Jamdena I. |
| ATOEBOEL R | 15 | NE | South of Atoeboel. |
| AWEER Vil | 74 | NE | SW coast, Fordate I. |
| BABAR Vil | 63 | NE | One of 3 villages that constitute Larat. |
| *BANDOENG | | | Java. |
| BAT KARBAN Rock | 18 | WNW | Off west coast, Jamdena I, south of Seira I. |
| BATKIËK C | 25 | NE | East coast, Jamdena I. |
| BAT NGOESI Rock | 58 | NE | Off east coast, Jamdena I. |
| BATOE TIGA Rock | 61 | NE | Off east coast, Jamdena I. |
| BATTJAWAT Rock | 9 | WSW | In Egeron Str. |
| BARA SADI Reef | 35 | WNW | SW of Seira I. |
| BOEAL Rock | 18 | WSW | Off north coast, Selaroe I. |
| BOEGIS Vil | 63 | NE | One of 3 villages that constitute Larat. |
| BOELAT Vil | 41 | SW | SE coast, Selaroe I. |
| BOETOEH C | 42 | NNW | West coast, Woeliaroe I. |
| BOLOE I | 52 | NNE | Off NW coast, Jamdena I. |
| DJASI C | 13 | W | SW point of Jamdena I. |
| EGERON Str | | | Divides Jamdena-Selaroe Is. |
| ELIASE Vil | 43 | SW | South coast, Selaroe I. |

*Asterisk indicates places outside area covered by Study.

| | Miles from Saumlaki | Direction | Location |
|---------------------------|------------------------|-----------|--|
| FARNOESAN I | 66 | NNE | Off north coast, Jamdena I. |
| FOEAR BANGOER Hill | 40 | NNW | Woeliaroe I. |
| FOEAR NETI Hill | 40 | NNW | Woeliaroe I. |
| FOERSOEI Vil | 40 | SW | SE extremity, Selaroe I. |
| FORDATE I | 75 | NE | NE of Larat I. |
| FRINOEN I | 66 | NNE | North of Jamdena I. |
| HABAMOERI C | 86 | NNE | East coast, Moloe I. |
| IF SIFA C | 23 | SW | East coast, Selaroe I. |
| ILNGE Vil | 5 | NE | Mitak B, SE coast, Jamdena I. |
| ITAIN I (POELAU MAKASSAR) | 62 | N | Off NW coast, Jamdena I. |
| ITRANKAILILENGAT I | 46 | N | Off NW tip. Wotap I. |
| JAMDENA I | | | Largest island of Tanimbar Group. |
| JAMDENA Str | 32 | NNW | Off west coast, Jamdena I. |
| JARNGOER RAA I | 41 | N | Off south coast, Wotap I. |
| JARNGOER ROEAL I | 42 | N | Off SW coast, Wotap I. |
| JEJAROE Rock | 33 | NW | NW of Seira I. |
| KABAWA I | 60 | NNE | NW of Jamdena I. |
| KABARAT Vil | 5 | NE | Mitak B, SE coast, Jamdena I. |
| *KAI Is | | | A group of islands approx 190 miles north of Tanimbar. |
| KALBOER I | 93 | NNE | The northernmost island of the group. |
| KAMATOEBOEN Vil | 28 | NW | One of 3 villages that constitute Seira |
| KANDAR Vil | 27 | SW | East coast, Selaroe I. |
| KARATA I | 59 | NNE | NW of Jamdena I. |
| KELIOBAR Vil | 71 | NE | North coast, Larat I. |
| KELJOBAR WAHAN Hill | 85 | NNE | Moloe I. |
| KESSE R | 5 | N | Flows into Saumlaki B. |
| KESSE I | 3 | N | Saumlaki B. |
| KESWOE I | 32 | NNW | Off west coast, Jamdena I. |
| KILAN Vil | 73 | NE | North coast, Larat I. |
| KILMASA LOEMBASEMBOEN Vil | 34 | NE | East coast, Jamdena I. |
| KILMASA SITENIWEJE Vil | 33 | NE | East coast, Jamdena I. |
| KILOEN Vil | 88 | NNE | East coast, Moloe I. |
| KJABRENGAN I | 72 | NNE | Noes Lima Is. |
| KOLAN FANOIER B | 17 | NW | West coast, Jamdena I. |
| KORE I | 19 | NE | Off east coast, Jamdena I. |
| KORE Vil | 18 | SW | Adaoet B, Selaroe I. |
| KORIT C | 83 | NNE | SE Moloe I. |
| KORTOETOEL C | 30 | NW | NW tip of Seira I. |
| LAIBOBAR I | 51 | N | Off west coast, Jamdena I. |
| LAMDESSAR BARAT Vil | 70 | ENE | SE coast, Larat I. |
| LAOERANG Vil | 4 | NE | Mitak B, SE coast, Jamdena I. |
| LARAT I | 65 | NE | Off NE coast, Jamdena I. |
| LARAT (RITABEL) Vil | 63 | NE | West coast, Larat I. |

| | Miles from Saumlaki | Direction | Location |
|---------------------------|------------------------|-----------|---------------------------------------|
| LAROE MAT C | 92 | NNE | NE tip of Moloe I. |
| LATDALAM VII | 13 | WNW | SW coast, Jamdena I. |
| LELING LOEAN VII | 63 | NE | On Loetoer I, west of Larat. |
| LEMIAN Anch | 30 | WSW | West coast, Selaroe I. |
| LEMIAN C | 33 | WSW | West coast, Selaroe I. |
| LENGWATI Rock | 33 | NW | Western entrance, Jamdena Str. |
| LERMATAN VII | 5 | WSW | South coast, Jamdena I. |
| LINGAT VII | 34 | SW | East coast, Selaroe I. |
| LOEAS I | 24 | NNW | Between Jamdena I and Seira I. |
| LOEBWAÄN Hill | 76 | N | Maroe I. |
| LOETOER I | 62 | NE | Off west coast, Larat I. |
| LOKA B (TELOK LOKA) | 87 | NNE | East coast, Moloe I. |
| LORO R | 8 | NE | East coast, Jamdena I. |
| LORO OELOENG VII | 10 | NE | East coast, Jamdena I. |
| LORO OEMBOENG VII | 28 | NE | East coast, Jamdena I. |
| MAKATIAN VII | 29 | WNW | West coast, Jamdena I. |
| MANGLOESI VII | 42 | NE | East coast, Jamdena I. |
| MAROE I | 73 | N | North of Jamdena I. |
| MATKOES I | 13 | SW | Off south coast, Jamdena I. |
| MEJANOE BAB VII | 32 | NE | East coast, Jamdena I. |
| MEJANOE DAS VII | 32 | NE | East coast, Jamdena I. |
| MELWOAR NIWEJAH Hill | 90 | NNE | NW portion, Moloe I. |
| MES I | 13 | NE | Off east coast, Jamdena I. |
| MESA I | 43 | NNW | Off north coast, Woeliaroe I. |
| METANOEAN C | 43 | NW | SW tip, Seloe I. |
| METI ROTTAN Reef | 64 | NNE | NW entrance to Larat B. |
| MITAK I | 54 | NNE | Off NW coast, Jamdena I. |
| MITAK B | 6 | NE | SE coast, Jamdena I. |
| NAFA C | 23 | NNW | Salwassa B, NW coast, Jamdena I. |
| NAMRALAN VII | 69 | NE | South coast, Larat I. |
| NAMTABOENG VII | 27 | WSW | South coast, Olendir Anch, Selaroe I. |
| NAMWAÄN I (TENEMAN D) | 58 | N | Off NW coast, Jamdena I. |
| NATRAAL I | 38 | N | NE of Woeliaroe I. |
| NATROOL I | 40 | N | NE of Woeliaroe I. |
| NGAFAHI VII | 52 | N | East coast, Laibobar I. |
| NGELIAWANG C | 42 | NNW | North coast, Woeliaroe I. |
| NGEVOE | 76 | NE | West coast, Fordate I. |
| NGOERBELOEK VII (Removed) | 26 | NNW | West coast, Jamdena I. |
| NGOERLAWIR C | 77 | NNE | NE coast, Maroe I. |
| NGOERTOETOEN C | 26 | NNW | NE tip of Seira I. |
| NGOLIN I | 28 | NW | SW Seira I. |
| NISIRWAN C | 41 | NNW | North coast, Woeliaroe I. |
| NITOE I | 46 | NW | NW Seloe I. |
| NITOEWAHAN C | 84 | NNE | West coast, Moloe I. |
| NOEAN I | 5½ | NE | Off east coast, Jamdena I. |
| NOEAN C | 36 | N | NW coast, Jamdena I. |
| NOEHOE TOETOEL C | 92 | NNE | NW tip of Moloe I. |

| | Miles from Saumlaki | Direction | Location |
|---------------------------|------------------------|-----------|--|
| NOEJANET I | 16 | WSW | In Egeron Str, north of Selaroe I. |
| NOE KA HA (SCHILDPAD I) | 78 | NE | NE of Larat I. |
| NOELEN Str | 39 | NW | Between Seloe I and Woeliaroe I. |
| NOERKAÄT VII | 82 | NNE | SW coast, Moloe I. |
| NOES KEI C | 15 | NW | SW coast, Jamdena I. |
| NOES LIMA Is | 71 | NNE | North of Jamdena I. |
| NOESTABOEN I | 8 | WSW | In Egeron Str |
| NOES TARAM Rock | 34 | N | NW coast, Jamdena I. |
| NORTH KERVAL (KEWAL) R | 29 | WSW | West coast, Selaroe I. |
| OEFI C | 74 | N | SW Maroe I. |
| OENGAR I | 50 | N | South of Laibobar I. |
| OERAN C | 73 | NE | North coast, Larat I. |
| OFTIAOE C | 45 | SW | South coast, Selaroe I. |
| OLAT MOLMOLI Inlet | 28 | NW | Seira I. |
| OLENDIR Anch | 24 | WSW | NW coast, Selaroe I. |
| ORAFROEAN Str | 74 | NE | Between Larat and Fordate Is. |
| PINTOE TANDOELA Passage | 23 | NW | South of Seira I. |
| POELAU MAKASSAR (ITAIN I) | 62 | N | Off NW coast, Jamdena I. |
| RANARMOJE R | 27 | NNW | West coast, Jamdena I. |
| RIAMA I | 44 | WSW | West of Selaroe I. |
| RIDON VII | 63 | NE | One of 3 villages that constitute Larat. |
| RITABEL (LARAT) | 63 | NE | West coast, Larat I. |
| ROE Pt | 19 | SW | East coast, Selaroe I. |
| ROEMJAÄN VII | 74 | NE | South coast, Fordate I. |
| ROEM NGEWOER VII | 75 | NE | South coast, Fordate I. |
| SABAL I | 36 | NW | SE of Seloe I. |
| SALBEER C | 13 | NE | East coast, Jamdena I. |
| SALWASSA B | 22 | NNW | West coast, Jamdena I. |
| SALWASSA R | 19 | NNW | Flows into Salwassa B. |
| SANGLIAT VII | 20 | NE | East coast, Jamdena I. |
| SARI BATSIR Reef | 48 | NE | Off east coast, Jamdena I. |
| SARI KARMOET Reef | 62 | NE | South of Larat I. |
| SARI KARMOETA Reef | 55 | NE | Off east coast, Jamdena I. |
| SARI KILMASA Reef | 36 | NE | Off east coast, Jamdena I. |
| SARI TOEMBOER Reef | 50 | NE | Off east coast, Jamdena I. |
| SARI WATEROE Reef | 47 | NE | Off east coast, Jamdena I. |
| SAUMLAKI | | | On Saumlaki B, south coast, Jamdena I. |
| SEIRA I | 24 | NW | Off west coast, Jamdena I. |
| SEIRA VII | 28 | NW | Seira I. |
| SELAROE I | 13 | SW | South of Jamdena I. |
| SELOE I | 38 | NW | Off west coast of Jamdena I. |
| SERANG Rock | 40 | WSW | Off west coast, Selaroe I. |
| SIFNANA VII | 31 | NE | SE coast, Jamdena I. |
| SITOLAR R | 23 | WSW | Olendir Anch, Selaroe I. |
| SOEKELER I | 33 | NW | Western entrance, Jamdena Str. |
| SOFIANIN VII | 79 | NE | West coast, Fordate I. |
| SOMORWAHAN C | 54 | N | Northern tip, Laibobar I. |
| SOUTH KERVAL (KEWAL) R | 29 | WSW | West coast, Selaroe I. |

| | Miles from Saumlaki | Direction | Location |
|-------------------------|------------------------|-----------|---|
| TAFTIAN Pt | 34 | SW | East coast, Selaroe I. |
| TAMBRIAN R | 18 | NE | East coast, Jamdena I. |
| TANDOELA I | 21 | NW | South of Seira I. |
| TEMAR I | 57 | N | South of Namwaän I. |
| TEMIN Vil | 28 | NW | One of 3 villages that constitute Seira Vil. |
| TENEMAN I (NAMWAÄN I) | 58 | N | Off NW coast, Jamdena I. |
| TETSOEKA C | 40 | WNW | NE tip, Woeliaroe I. |
| TOEAL I | 51 | N | Off south coast, Laibobar I. |
| TOEAL I | 3 | WSW | Saumlaki B. |
| TOEMBOER Vil | 9 | NE | East coast, Jamdena I. |
| TOETOEKEMBANG Vil | 41 | NE | East coast, Jamdena I. |
| TOETOENAMETAL Vil | 82 | NNE | SW coast, Moloe I. |
| TOEWAOE C | 37 | WSW | West coast, Selaroe I. |
| TORIM C (TORIM TOEBOEN) | 19 | WSW | NW tip of Selaroe I. |
| TOTOBOELAIN C | 15 | SW | North coast, Selaroe I. |
| VATMAASSA Vil | 59 | NNE | NW coast, Jamdena I. |
| VAT OELMAA Rock | 66 | NE | South of Larat I. |
| VATTEJAN C | 65 | NE | South coast, Larat I. |
| VATVOERAT I | 61 | NNE | NW Jamdena I. |
| VOELMALI I | 48 | N | South of Laibobar I. |
| WAARLANGIER C | 83 | NE | Northern tip, Fordate I. |
| WAAT I | 38 | NW | Off NE coast, Seloe I. |
| WADATOETOE C | 26 | WSW | West coast, Selaroe I. |
| WAILOETOE Vil | 28 | NW | One of 3 villages that constitute Seira Vil, Seira I. |
| WAI RIWOER C | 40 | NW | South coast, Seloe I. |
| WAJANGAN I | 80 | NNE | Off south coast, Moloe I. |
| WALERAN Vil | 79 | NE | West coast, Fordate I. |
| WATIDAL Vil | 60 | NE | West coast, Larat I. |
| WATLALOEN C | 35 | NNW | Southern tip, Woeliaroe I. |
| WATLOLA C | 30 | NW | NW tip of Seira I. |
| WATMOERI Vil | 47 | NE | East coast, Jamdena I. |
| WATOEROE Vil | 40 | NE | East coast, Jamdena I. |
| WATOEWAWAN I | 29 | NW | SW Seira I. |
| WAT SIRA Rock | 84 | NE | North end, Fordate I. |
| WATWAWOE C | 77 | N | NW coast, Maroe I. |
| WEDANGKAOE Vil | 89 | NNE | East coast, Moloe I. |
| WERAIN Vil | 40 | WSW | West coast, Selaroe I. |
| WERAIN C | 40 | WSW | West coast, Selaroe I. |
| WERMATAN I | 71 | NNE | Westernmost island of Noes Lima, north of Jamdena I. |
| WERMATANG Vil | 20 | NNW | South coast, Salvassa B; west coast, Jamdena I. |
| WEROE I | 36 | NNW | Off south coast, Woeliaroe I. |
| WOELMASA Vil | 86 | NNE | West coast, Moloe I. |
| WOELIAROE I | 36 | NNW | Off west coast, Jamdena I. |
| WOENLAH Vil | 85 | NNE | East coast, Moloe I. |
| WOEROE WOEROE Hill | 43 | NW | Seloe I. |
| WOLAS I | 32 | NNW | In Jamdena Str. |
| WOTAP I | 42 | N | Off west coast, Jamdena I. |
| WOWONDA Vil | 5½ | NE | Mitak B, east coast, Jamdena I. |
| ZOETWATERBRON Well | 42 | NNW | West coast, Woeliaroe I. |

APPENDIX "B"

1.—TIMES OF SUNRISE AND SUNSET, JUL 44-JUN 45

SAUMLAKI

(Lat 07° 58' S, Long 131° 18' E)

Local time (9 hours on GMT)

| SUNRISE | | | | SUNSET | | | |
|---------|----|------|--------|---------|-----|------|------|
| 1944 | | 1945 | | 1944 | | 1945 | |
| Jul | 5 | 0627 | Jan. 3 | 0604 | Jul | 5 | 1811 |
| | 12 | 0627 | | 10 0609 | | 12 | 1813 |
| | 19 | 0629 | | 17 0612 | | 19 | 1814 |
| | 26 | 0628 | | 24 0613 | | 26 | 1815 |
| | | | | 31 0616 | | 31 | 1842 |
| Aug | 2 | 0629 | Feb | 7 0619 | Aug | 2 | 1815 |
| | 9 | 0625 | | 14 0620 | | 9 | 1816 |
| | 16 | 0622 | | 21 0620 | | 16 | 1815 |
| | 23 | 0619 | | 28 0619 | | 23 | 1816 |
| | 30 | 0617 | | | | 30 | 1813 |
| Sep | 6 | 0612 | Mar | 7 0619 | Sep | 6 | 1812 |
| | 13 | 0609 | | 14 0620 | | 13 | 1812 |
| | 20 | 0605 | | 21 0619 | | 20 | 1811 |
| | 27 | 0602 | | 28 0619 | | 27 | 1811 |
| Oct | 4 | 0559 | Apr | 4 0617 | Oct | 4 | 1810 |
| | 11 | 0556 | | 11 0617 | | 11 | 1810 |
| | 18 | 0551 | | 18 0615 | | 18 | 1808 |
| | 25 | 0549 | | 25 0616 | | 25 | 1809 |
| Nov | 1 | 0548 | May | 2 0617 | Nov | 1 | 1811 |
| | 8 | 0547 | | 9 0618 | | 8 | 1811 |
| | 15 | 0547 | | 16 0618 | | 15 | 1814 |
| | 22 | 0546 | | 23 0619 | | 22 | 1816 |
| | 29 | 0549 | | 30 0621 | | 29 | 1819 |
| Dec | 6 | 0551 | Jun | 6 0622 | Dec | 6 | 1823 |
| | 13 | 0554 | | 13 0623 | | 13 | 1826 |
| | 20 | 0557 | | 20 0625 | | 20 | 1830 |
| | 27 | 0601 | | 27 0627 | | 27 | 1832 |

Dates given are Wednesdays of each week.

2.—TIMES OF MOONRISE, JUL 44-JUN 45

SAUMLAKI

(Lat 07° 58' S, Long 131° 18' E). Local time (9 hours on GMT)

| Date | Jul | Aug | 1944 Sep | Oct | Nov | Dec | 1945 Jan | Feb | Mar | Apr | May | Jun |
|------|------|------|-------------|------|------|------|-------------|------|------|------|------|------|
| 1 | 1402 | 1506 | 1646 | 1727 | 1858 | 1938 | 2057 | 2141 | 2017 | 2054 | 2111 | 2243 |
| 2 | 1448 | 1603 | 1748 | 1825 | 1957 | 2035 | 2142 | 2219 | 2055 | 2138 | 2202 | 2337 |
| 3 | 1537 | 1703 | 1847 | 1923 | 2055 | 2128 | 2224 | 2257 | 2134 | 2235 | 2256 | — |
| 4 | 1629 | 1805 | 1946 | 2021 | 2153 | 2218 | 2304 | 2337 | 2213 | 2314 | 2354 | 0031 |
| 5 | 1724 | 1905 | 2043 | 2118 | 2248 | 2305 | 2344 | — | 2257 | — | — | 0125 |
| 6 | 1822 | 2006 | 2139 | 2214 | 2339 | 2349 | — | 0019 | 2343 | 0007 | 0049 | 0220 |
| 7 | 1923 | 2104 | 2335 | 2310 | — | — | 0023 | 0103 | — | 0103 | 0144 | 0315 |
| 8 | 2022 | 2201 | 2330 | — | 0027 | 0030 | 0102 | 0150 | 0031 | 0200 | 0239 | 0415 |
| 9 | 2121 | 2256 | — | 0003 | 0112 | 0109 | 0142 | 0242 | 0122 | 0258 | 0334 | 0510 |
| 10 | 2218 | 2349 | 0023 | 0055 | 0155 | 0148 | 0226 | 0337 | 0218 | 0356 | 0431 | 0611 |
| 11 | 2313 | — | 0116 | 0144 | 0235 | 0227 | 0313 | 0435 | 0316 | 0455 | 0529 | 0712 |
| 12 | — | 0042 | 0209 | 0230 | 0312 | 0307 | 0403 | 0535 | 0415 | 0551 | 0628 | 0810 |
| 13 | 0007 | 0136 | 0259 | 0314 | 0348 | 0349 | 0457 | 0635 | 0515 | 0651 | 0728 | 0907 |
| 14 | 0100 | 0229 | 0346 | 0355 | 0427 | 0435 | 0555 | 0734 | 0614 | 0747 | 0829 | 1000 |
| 15 | 0153 | 0322 | 0431 | 0434 | 0510 | 0524 | 0654 | 0832 | 0712 | 0847 | 0929 | 1048 |
| 16 | 0246 | 0414 | 0514 | 0513 | 0556 | 0616 | 0753 | 0928 | 0810 | 0947 | 1026 | 1132 |
| 17 | 0339 | 0503 | 0556 | 0552 | 0642 | 0711 | 0850 | 1024 | 0907 | 1046 | 1119 | 1213 |
| 18 | 0433 | 0550 | 0635 | 0632 | 0731 | 0808 | 0947 | 1119 | 1005 | 1143 | 1209 | 1252 |
| 19 | 0526 | 0634 | 0713 | 0713 | 0824 | 0905 | 1042 | 1214 | 1102 | 1237 | 1255 | 1330 |
| 20 | 0617 | 0716 | 0753 | 0757 | 0919 | 1002 | 1135 | 1309 | 1200 | 1327 | 1336 | 1408 |
| 21 | 0705 | 0756 | 0833 | 0844 | 1014 | 1058 | 1229 | 1405 | 1256 | 1413 | 1416 | 1448 |
| 22 | 0752 | 0835 | 0915 | 0934 | 1109 | 1152 | 1323 | 1500 | 1350 | 1456 | 1455 | 1530 |
| 23 | 0836 | 0913 | 1000 | 1027 | 1204 | 1246 | 1418 | 1553 | 1441 | 1538 | 1533 | 1615 |
| 24 | 0918 | 0953 | 1048 | 1122 | 1259 | 1338 | 1513 | 1643 | 1529 | 1617 | 1611 | 1702 |
| 25 | 0957 | 1033 | 1139 | 1218 | 1355 | 1432 | 1609 | 1731 | 1615 | 1655 | 1652 | 1752 |
| 26 | 1032 | 1117 | 1232 | 1315 | 1451 | 1528 | 1705 | 1816 | 1657 | 1733 | 1734 | 1846 |
| 27 | 1110 | 1204 | 1329 | 1412 | 1547 | 1624 | 1758 | 1858 | 1737 | 1812 | 1820 | 1941 |
| 28 | 1151 | 1254 | 1428 | 1509 | 1643 | 1722 | 1848 | 1938 | 1816 | 1853 | 1908 | 2037 |
| 29 | 1235 | 1347 | 1528 | 1606 | 1740 | 1819 | 1935 | — | 1855 | 1936 | 1959 | 2133 |
| 30 | 1322 | 1444 | 1628 | 1703 | 1838 | 1913 | 2019 | — | 1933 | 2023 | 2052 | 2228 |
| 31 | 1412 | 1545 | — | 1801 | — | 2006 | 2101 | — | 2013 | — | 2147 | — |

3.—TIMES OF MOONSET, JUL 44-JUN 45

| Date | Jul | Aug | 1944 Sep | Oct | Nov | Dec | 1945 Jan | Feb | Mar | Apr | May | Jun |
|------|------|------|-------------|------|------|------|-------------|------|------|------|------|------|
| 1 | 0148 | 0300 | 0436 | 0504 | 0615 | 0643 | 0808 | 0913 | 0753 | 0847 | 0910 | 1037 |
| 2 | 0236 | 0357 | 0533 | 0556 | 0708 | 0739 | 0859 | 0957 | 0837 | 0934 | 1002 | 1128 |
| 3 | 0326 | 0456 | 0628 | 0648 | 0802 | 0834 | 0947 | 1041 | 0921 | 1023 | 1055 | 1218 |
| 4 | 0419 | 0556 | 0722 | 0740 | 0859 | 0928 | 1034 | 1125 | 1005 | 1114 | 1148 | 1306 |
| 5 | 0515 | 0654 | 0813 | 0832 | 0953 | 1021 | 1119 | 1210 | 1050 | 1206 | 1241 | 1354 |
| 6 | 0614 | 0749 | 0901 | 0924 | 1047 | 1110 | 1203 | 1257 | 1138 | 1300 | 1332 | 1442 |
| 7 | 0713 | 0842 | 0951 | 1016 | 1140 | 1157 | 1246 | 1346 | 1228 | 1354 | 1422 | 1530 |
| 8 | 0812 | 0934 | 1041 | 1108 | 1230 | 1241 | 1330 | 1438 | 1321 | 1448 | 1511 | 1622 |
| 9 | 0908 | 1024 | 1133 | 1200 | 1316 | 1324 | 1417 | 1533 | 1416 | 1541 | 1600 | 1717 |
| 10 | 1000 | 1112 | 1226 | 1252 | 1401 | 1408 | 1506 | 1631 | 1511 | 1633 | 1650 | 1815 |
| 11 | 1050 | 1159 | 1318 | 1342 | 1445 | 1453 | 1558 | 1728 | 1607 | 1724 | 1742 | 1913 |
| 12 | 1140 | 1248 | 1409 | 1433 | 1529 | 1539 | 1653 | 1824 | 1702 | 1814 | 1837 | 2012 |
| 13 | 1226 | 1339 | 1500 | 1521 | 1614 | 1626 | 1750 | 1919 | 1755 | 1906 | 1934 | 2108 |
| 14 | 1313 | 1430 | 1550 | 1606 | 1659 | 1717 | 1848 | 2012 | 1848 | 1959 | 2032 | 2202 |
| 15 | 1401 | 1522 | 1637 | 1649 | 1747 | 1810 | 1944 | 2102 | 1938 | 2054 | 2130 | 2252 |
| 16 | 1452 | 1612 | 1722 | 1733 | 1836 | 1906 | 2038 | 2151 | 2030 | 2150 | 2227 | 2341 |
| 17 | 1543 | 1702 | 1806 | 1817 | 1926 | 2004 | 2130 | 2240 | 2121 | 2246 | 2321 | — |
| 18 | 1634 | 1751 | 1850 | 1902 | 2018 | 2059 | 2220 | 2329 | 2213 | 2342 | — | 0026 |
| 19 | 1725 | 1839 | 1934 | 1949 | 2114 | 2153 | 2308 | — | 2307 | — | 0012 | 0110 |
| 20 | 1818 | 1924 | 2019 | 2039 | 2209 | 2246 | 2355 | 0020 | — | 0037 | 0100 | 0153 |
| 21 | 1908 | 2008 | 2106 | 2129 | 2302 | 2335 | — | 0112 | 0001 | 0128 | 0146 | 0237 |
| 22 | 1957 | 2051 | 2153 | 2222 | 2355 | — | 0043 | 0205 | 0056 | 0217 | 0230 | 0323 |
| 23 | 2044 | 2136 | 2242 | 2318 | — | 0023 | 0132 | 0259 | 0150 | 0304 | 0314 | 0410 |
| 24 | 2127 | 2222 | 2334 | — | 0047 | 0109 | 0224 | 0352 | 0242 | 0349 | 0358 | 0459 |
| 25 | 2211 | 2309 | — | 0013 | 0137 | 0156 | 0316 | 0444 | 0332 | 0433 | 0442 | 0551 |
| 26 | 2256 | 2357 | 0028 | 0107 | 0226 | 0245 | 0410 | 0534 | 0420 | 0516 | 0528 | 0645 |
| 27 | 2341 | — | 0125 | 0201 | 0314 | 0337 | 0504 | 0622 | 0505 | 0600 | 0616 | 0740 |
| 28 | — | 0048 | 0221 | 0253 | 0404 | 0428 | 0558 | 0708 | 0550 | 0645 | 0706 | 0833 |
| 29 | 0027 | 0142 | 0317 | 0344 | 0455 | 0524 | 0650 | — | 0635 | 0732 | 0758 | 0926 |
| 30 | 0115 | 0238 | 0411 | 0435 | 0548 | 0620 | 0740 | — | 0718 | 0820 | 0852 | 1016 |
| 31 | 0206 | 0337 | — | 0525 | — | 0715 | 0828 | — | 0802 | — | 0945 | — |

4.—PHASES OF THE MOON, JUL 44-JUN 45

| | Jul | Aug | 1944 Sep | Oct | Nov | Dec | Jan | Feb | 1945 Mar | Apr | May | Jun |
|---------------|-----|-----|-------------|---------|-----|-----|-----|-----|-------------|-----|-----|-----|
| Full Moon | 6 | 4 | 3 | 31 2 | 30 | 30 | 28 | 27 | 28 | 27 | 27 | 25 |
| Last Quarter | 13 | 11 | 9 | 9 | 8 | 8 | 6 | 5 | 7 | 5 | 5 | 3 |
| New Moon | 20 | 19 | 17 | 17 | 16 | 16 | 14 | 12 | 14 | 12 | 11 | 10 |
| First Quarter | 28 | 27 | 25 | 25 | 23 | 23 | 20 | 19 | 20 | 19 | 18 | 17 |

APPENDIX "C"

DUTCH, MALAY OR NATIVE WORDS IN COMMON USE

| | | | | |
|---------------------------|----|----|----|---|
| AJER | .. | .. | .. | Water. |
| ALANG-ALANG | .. | .. | .. | A rank, coarse grass—"Imperata Cylindrica"—which can grow to a height of over seven feet. Identical with, or very similar to, the "kunai" of New Guinea. |
| BAAI | .. | .. | .. | Bay. |
| BABI | .. | .. | .. | Pig. |
| BARAT | .. | .. | .. | West. |
| BATOE | .. | .. | .. | Stone, rock. |
| BESAR | .. | .. | .. | Big, large. |
| BESI | .. | .. | .. | Iron. |
| DOEA | .. | .. | .. | Two. |
| GOEROE | .. | .. | .. | Native teacher. |
| KAMPONG (abbrev KG) | .. | .. | .. | Village. |
| KARANG | .. | .. | .. | Coral reef. |
| KELAPA | .. | .. | .. | Coconut. |
| KETJIL | .. | .. | .. | Small, little. |
| LADANG | .. | .. | .. | Native gardens. Some of these are of a more or less permanent nature, being sown every year. Others are used only for one or two seasons and then abandoned, when they soon become covered with secondary growth. |
| LABOEAN (abbrev LABN) | .. | .. | .. | Anchorage. |
| LEMBANG | .. | .. | .. | Valley. |
| METI | .. | .. | .. | Coral, sand or mud, which dries at low water. |
| OELAR | .. | .. | .. | Snake. |
| OLAT | .. | .. | .. | Inlet. |
| PANTEI | .. | .. | .. | Beach. |
| PASANGGRAHAN | .. | .. | .. | Government rest house. |
| POELAU (abbrev P) | .. | .. | .. | Island. |
| PRAHOE | .. | .. | .. | Native canoe. |
| ROEMBIA | .. | .. | .. | Sago palm—"Sagus Laevis." |
| SOENGAI (abbrev S) | .. | .. | .. | River. |
| TANDJONG (abbrev T or TG) | .. | .. | .. | Cape. Point. |
| TELAGA | .. | .. | .. | Lake. |
| TELOK | .. | .. | .. | Inlet or bay. |
| TEROESAN | .. | .. | .. | Waterway forming a short cut. |
| TIMOER | .. | .. | .. | East. |
| TOKO | .. | .. | .. | Shop (usually Chinese). |

APPENDIX "D"

JAPANESE EQUIVALENTS OF IMPORTANT PLACE NAMES

| | | |
|--------------|----------|------------------------|
| ADAOET | アドウ | ADOU |
| ALILIT | アリリト | (ARIRITO) |
| ANGGARMASA | アングラマサ | (ANGARAMASA) |
| EGERON STR | エヘロン海峡 | EHERON KAIKYO |
| FORDATE I | フォルダテ島 | FUORUDATE JIMA |
| JAMDENA | ヤムデナ | YAMUDENA |
| LARAT | ララト | RARATO |
| LEMIAN ANCH | レミアン錨碇地 | (REMIAN BYÔTEICHI)* |
| LINGAT | リングアト | RINGATO |
| MAROE I | マル島 | MARU JIMA |
| MATKOE I | マツトクス島 | (MATTUKUSU JIMA) |
| MOLOE I | モレ島 | MORE JIMA |
| OLENDIR ANCH | オランジル錨碇地 | *(ORANJIRU BYÔTEICHI)* |
| SAUMLAKI | サウムラツキ | SAUMURAKKI |
| SEIRA I | セイラ島 | (SEIRA JIMA) |
| SELAROE | セラル | SERARU |

* BYÔTEICHI (錨碇地) is literal translation of ANCH or ANCHORAGE, but MINATO (港) is most commonly used.

INDEX TO MAPS AND PHOTOS



LEGEND

Maps
Photos



MAP 5

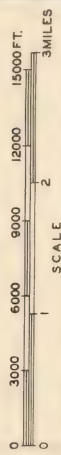
NEW LANDING STRIP

SELAROE ISLAND-TANIMBAR GROUP

13-JUNE-43

ALT 23000' FL 6'

NO. I.P.R.U.



CIT
DIRECTORATE CIVIL INTELLIGENCE
ALLIED AIR FORCES, S.W.P.A.
NEG. NO. 5795

1. Selaroe Strip and SW end of
Selaroe I. Mosaic. Vertical. 13 Jun 43.

C.I.U.
DIRECTORATE OF INTELLIGENCE
ALLIED AIR FORCES, S.W.P.A.
NEG. No. 543

CORAL REEF





Landing
Beach

Possible
Airstrip
Site

LINGAT



1. Selaroe Strip and SW end of
Selaroe I. Mosaic. Vertical. 13 Jun 43.



LANDING
STRIP

I S L A N D

*Terraced
Hill*

O E

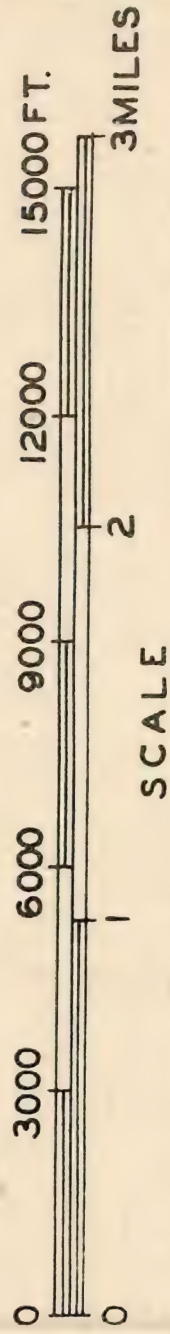


NEW LANDING STRIP
SELAROE ISLAND-TANIMBAR GROUP

13-JUNE-43

ALT. 23,000' F.L. 6"

NO. 1.P.R.U.



WERAIN

Waterhole

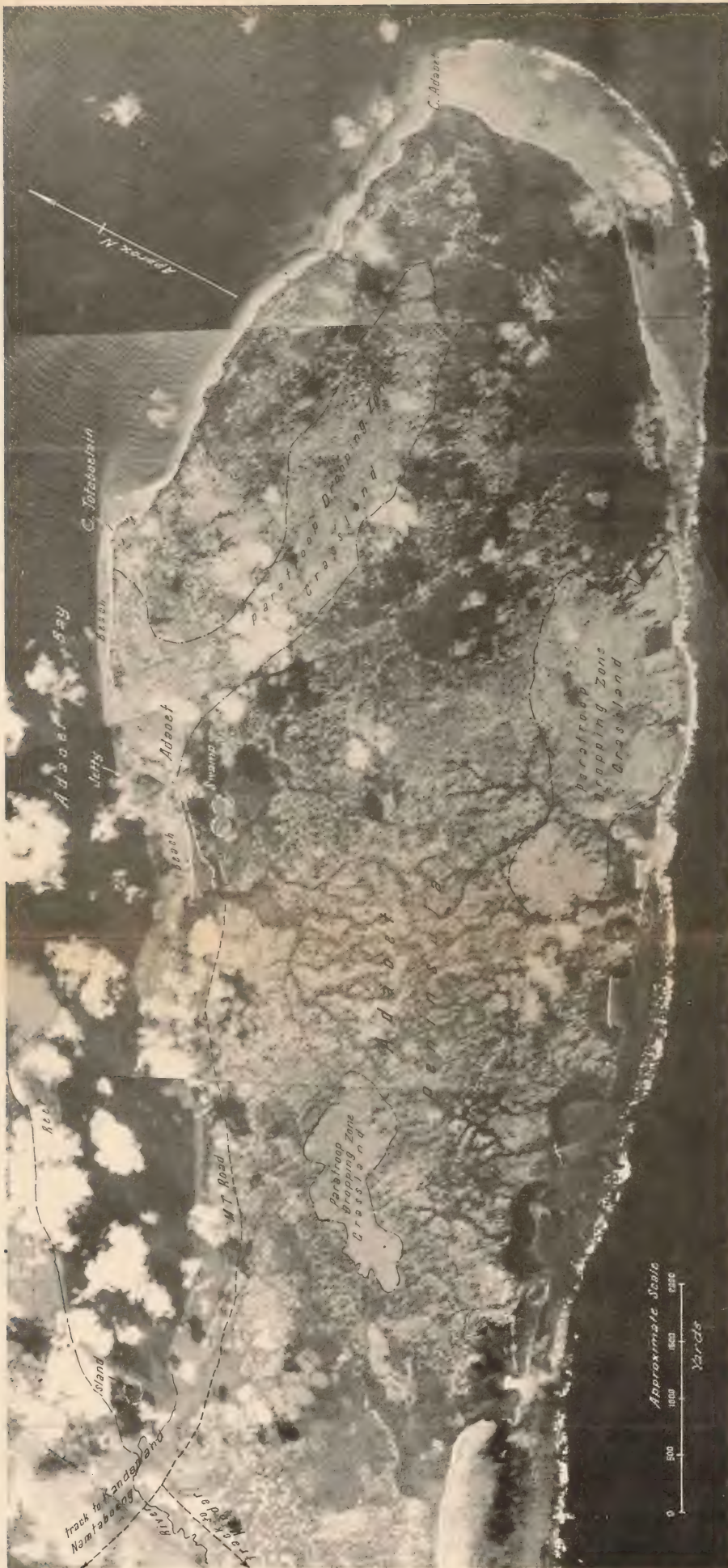
S E L A R

ELJASE

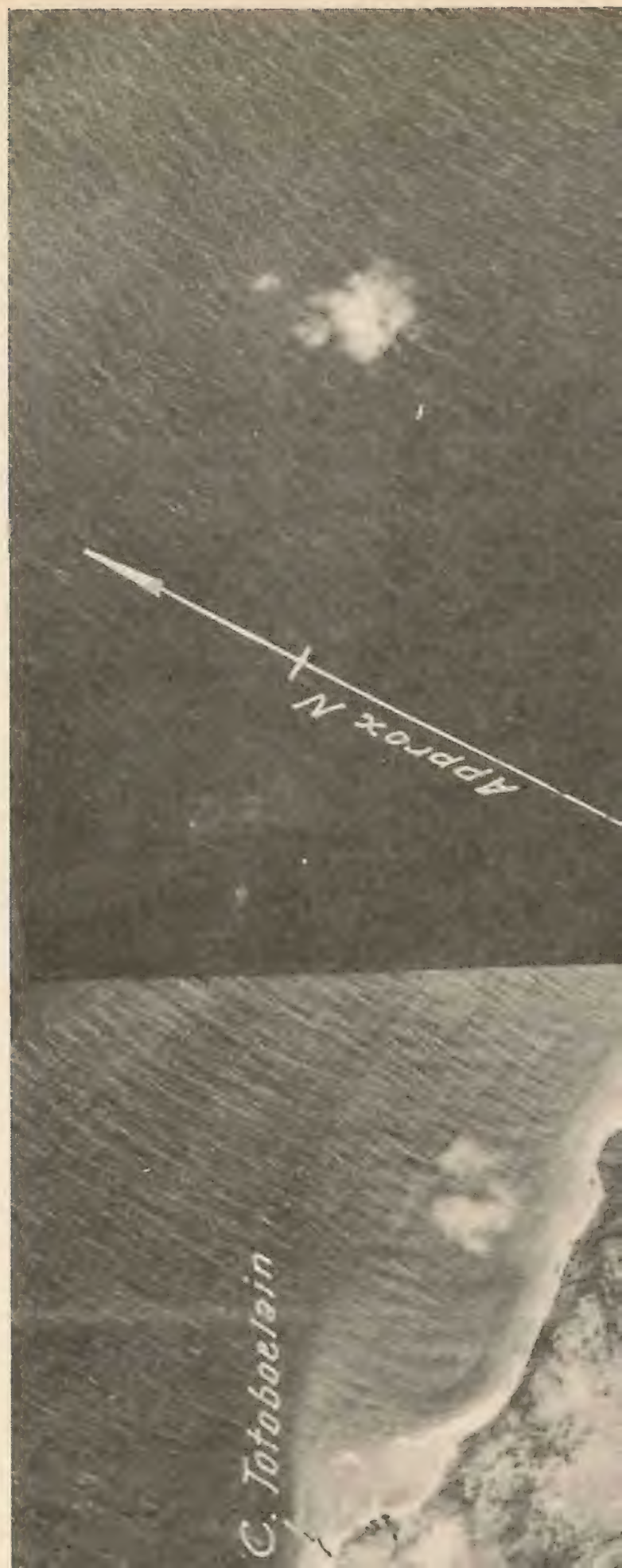
CAPE
OFTIAOE

FOERSOEI





2. Adaoet Peninsula. Mosaic. Vertical. 11 Aug 43.



C. Totoboelein

C. Adaoet

Dropping Zone



2. Adaoet Peninsula. Mosaic. Vertical. 11 Aug 43.





parat
cras

Ad

pen

a



Dropping Zone
Drassland

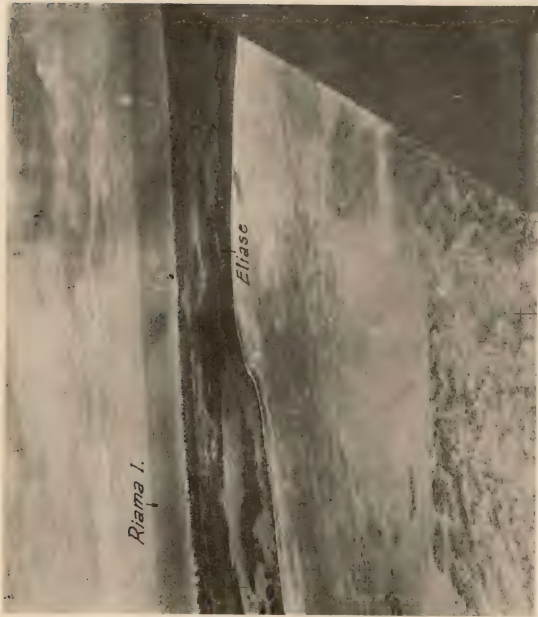


[illegible]

Approximate Scale



Yards



(a)



(b)



(c)



(e)

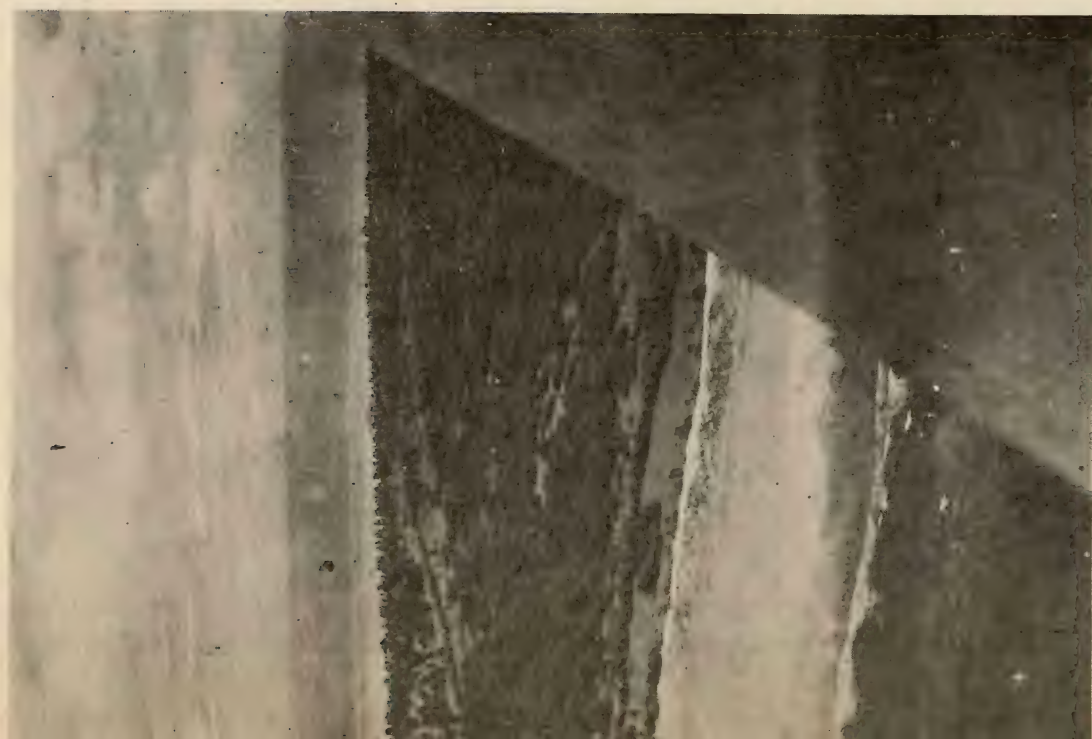


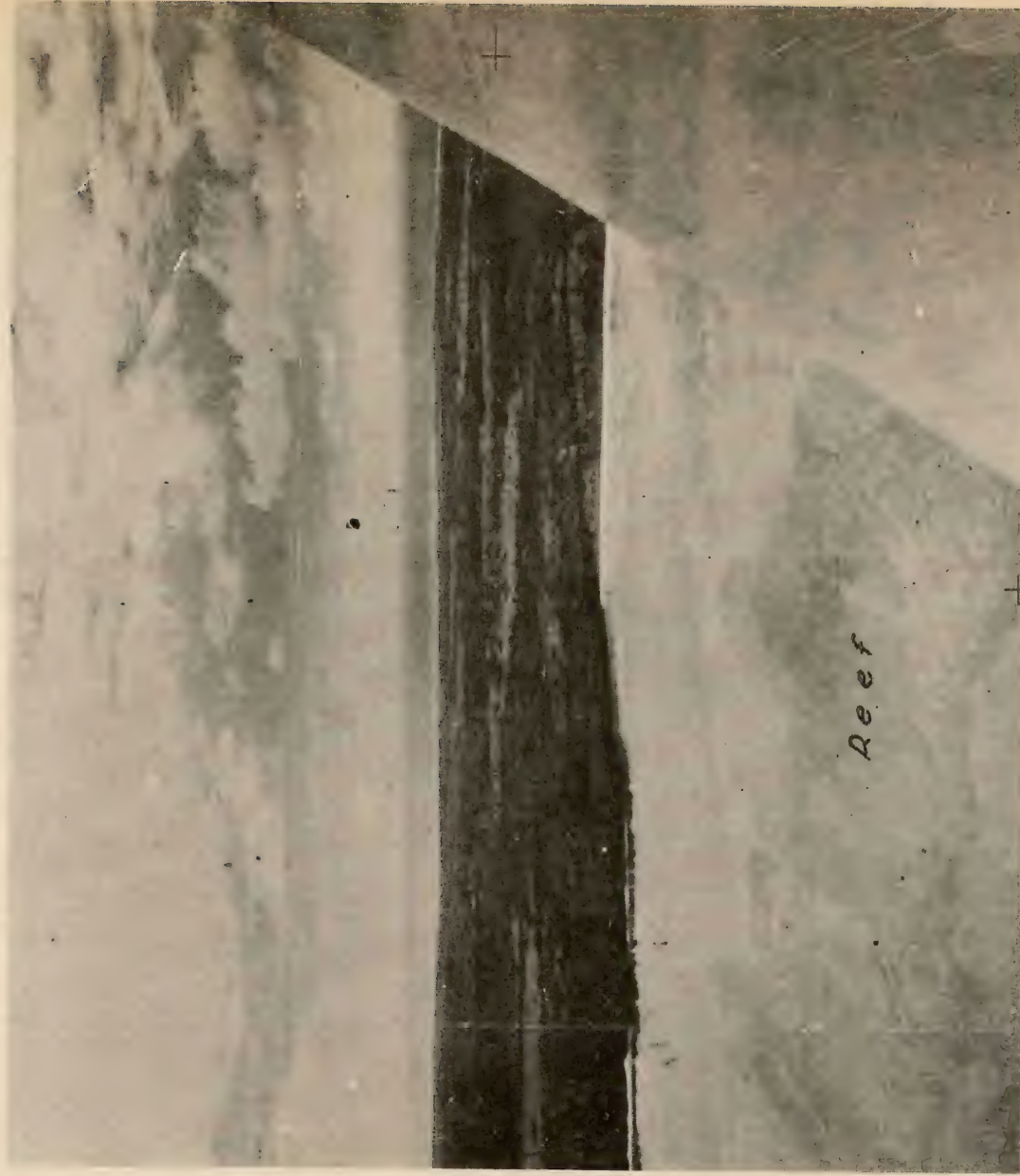
(f)

3. Selaroe Island Obliques 6 Apr 44. 3(b) and 3(c) show the wide reef which fringes the coast.



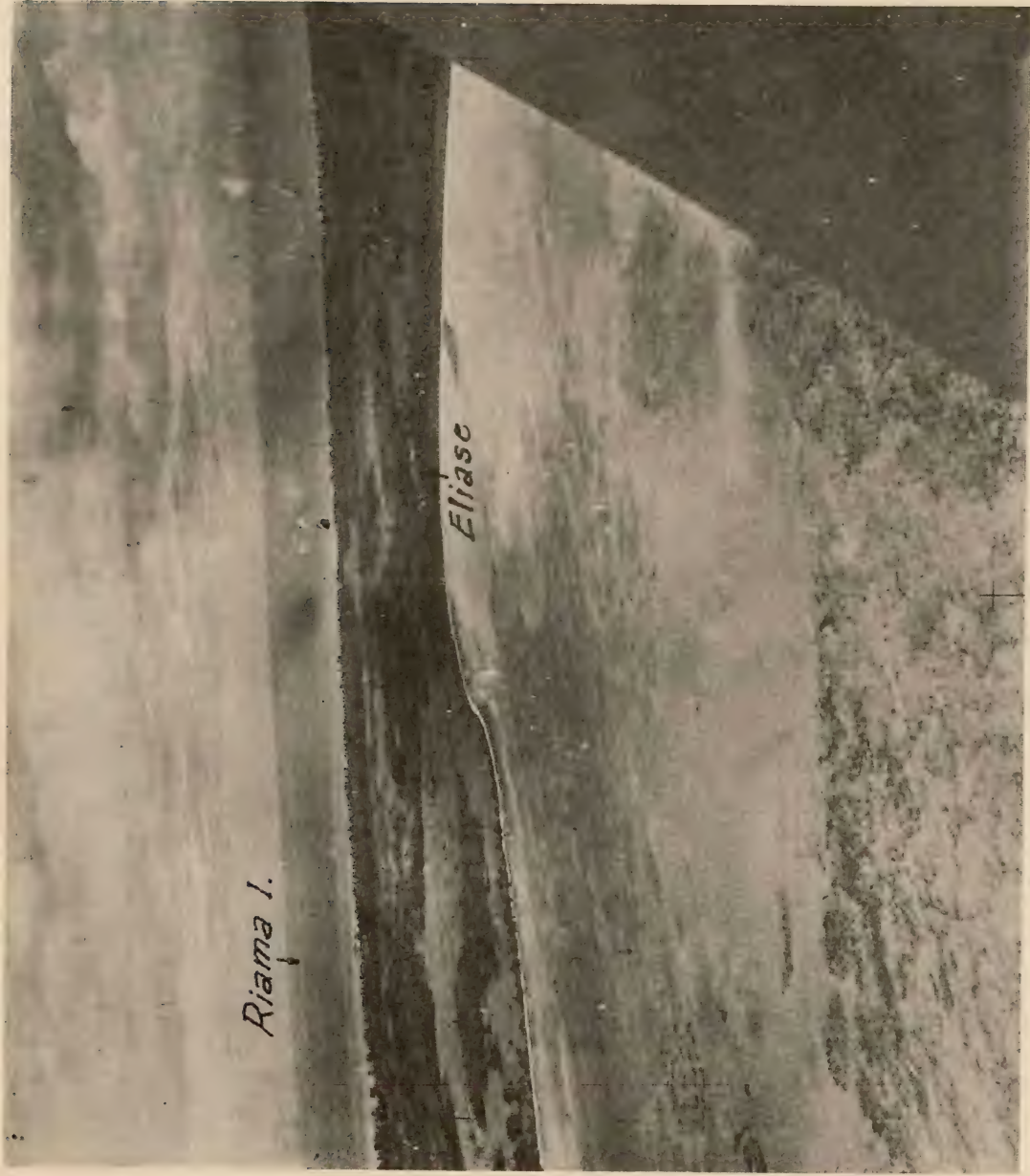
(c)





(f)

3. Selaroe Island Obliques 6 Apr 44. 3(b) and 3(c) show the wide reef which fringes the coast.



(a)



(b)



(e)



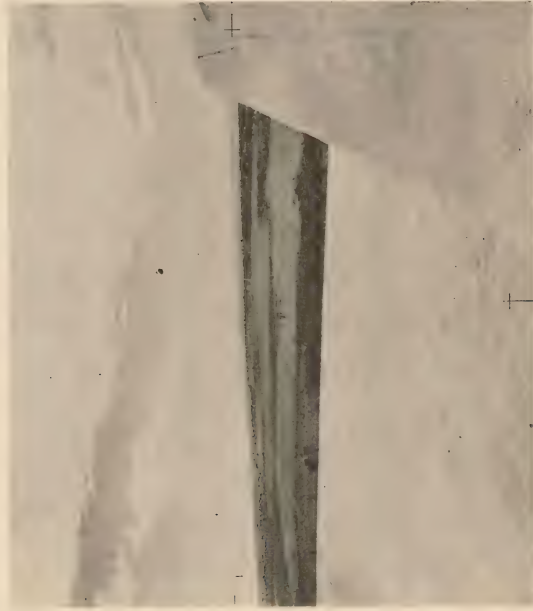
(a)



(b)



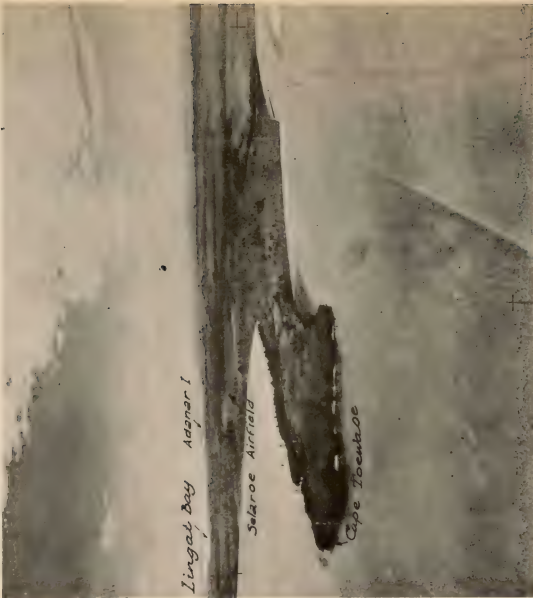
(c)



(d)



(e)



(f)

4. Salaroe Island Obliques 6 Apr 44. 4(e) and 4(f) show Salaroe Airfield.



Lingat Bay

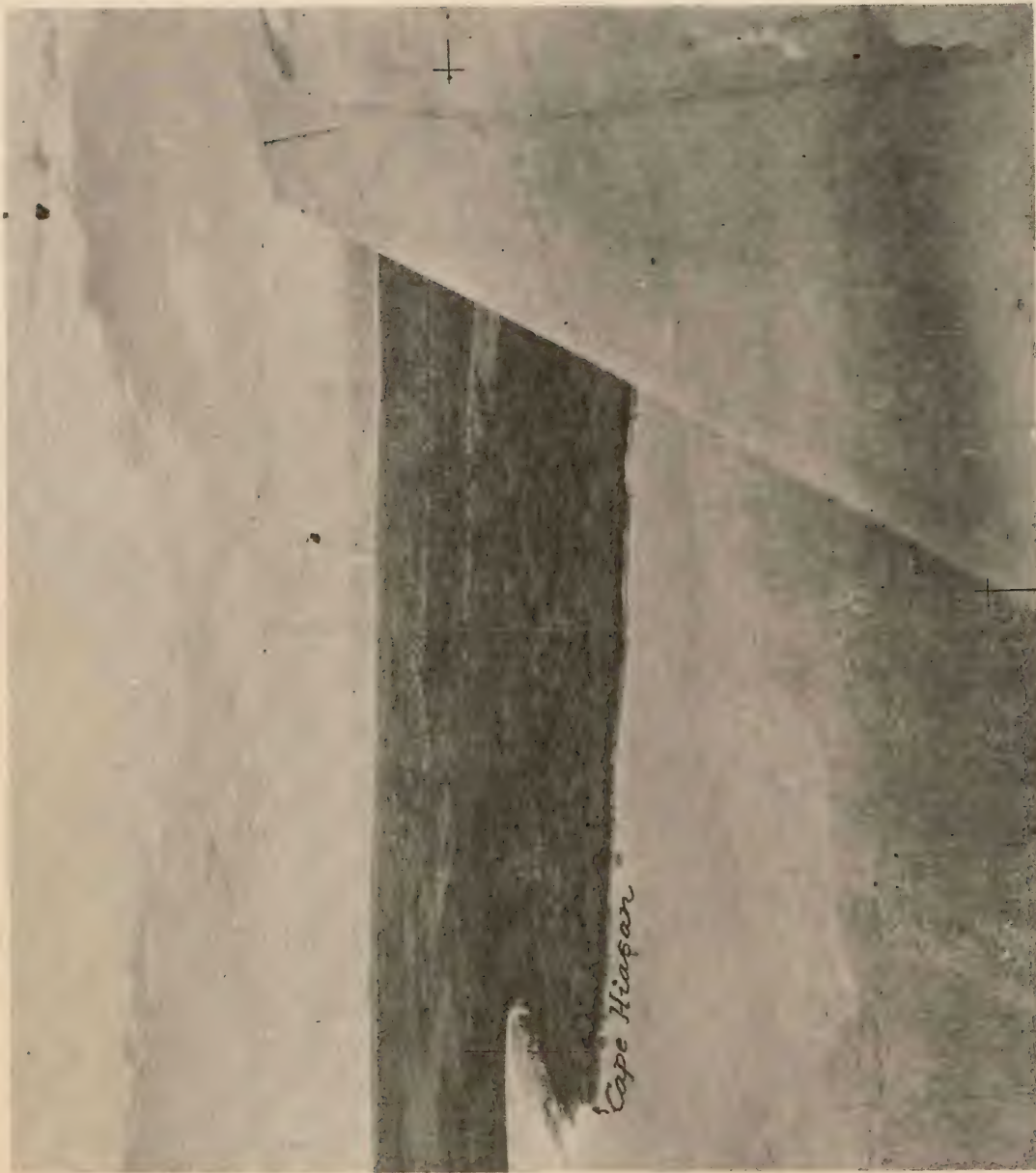
*Low Cliffs
Cape Weraia*

(c)



(f)

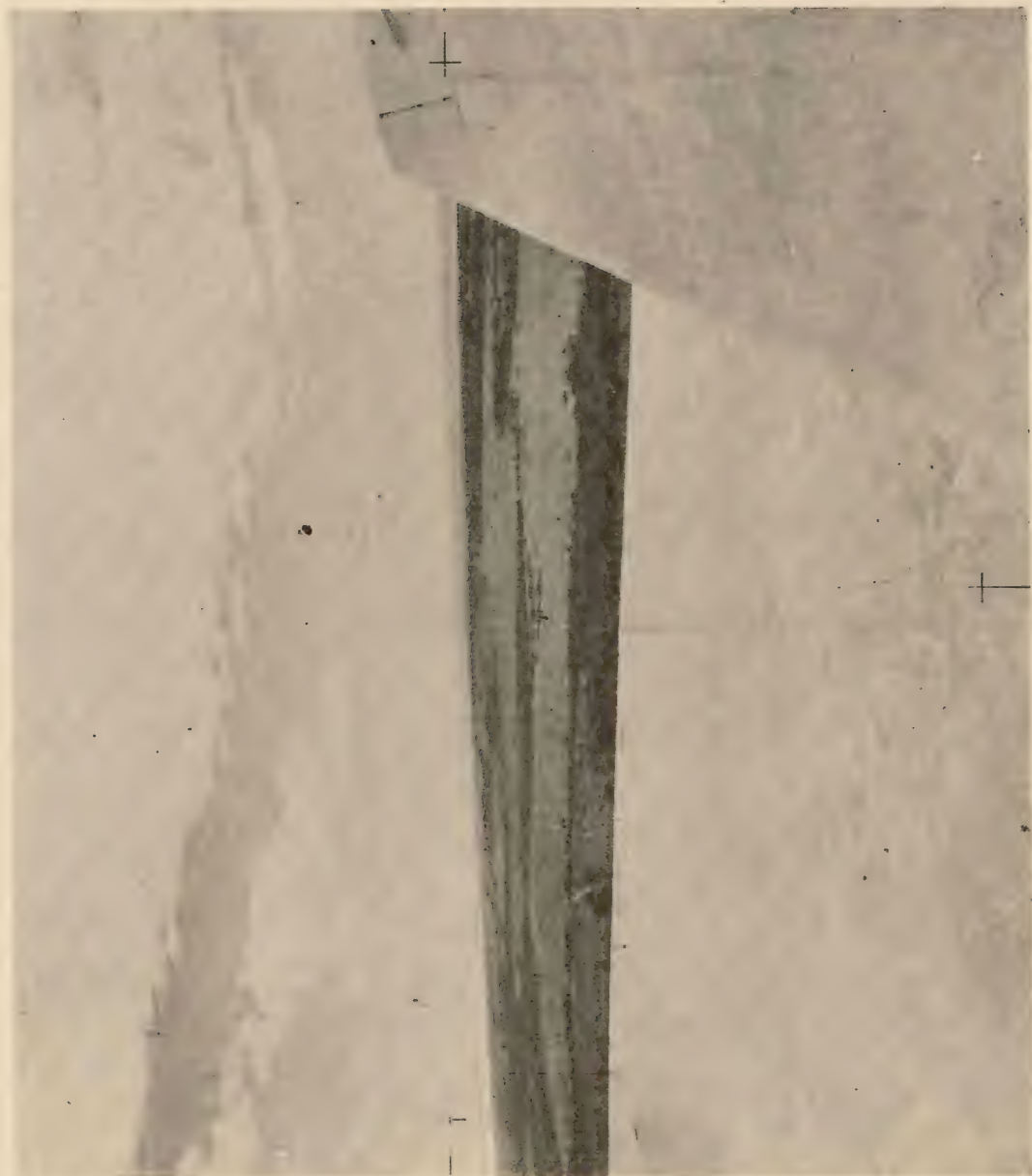
4. Selaroe Island Obliques 6 Apr 44. 4(e) and 4(f) show Selaroe Airfield.



(a)



(b)



(d)



(e)



(a)



(b)



(c)



(d)



(e)

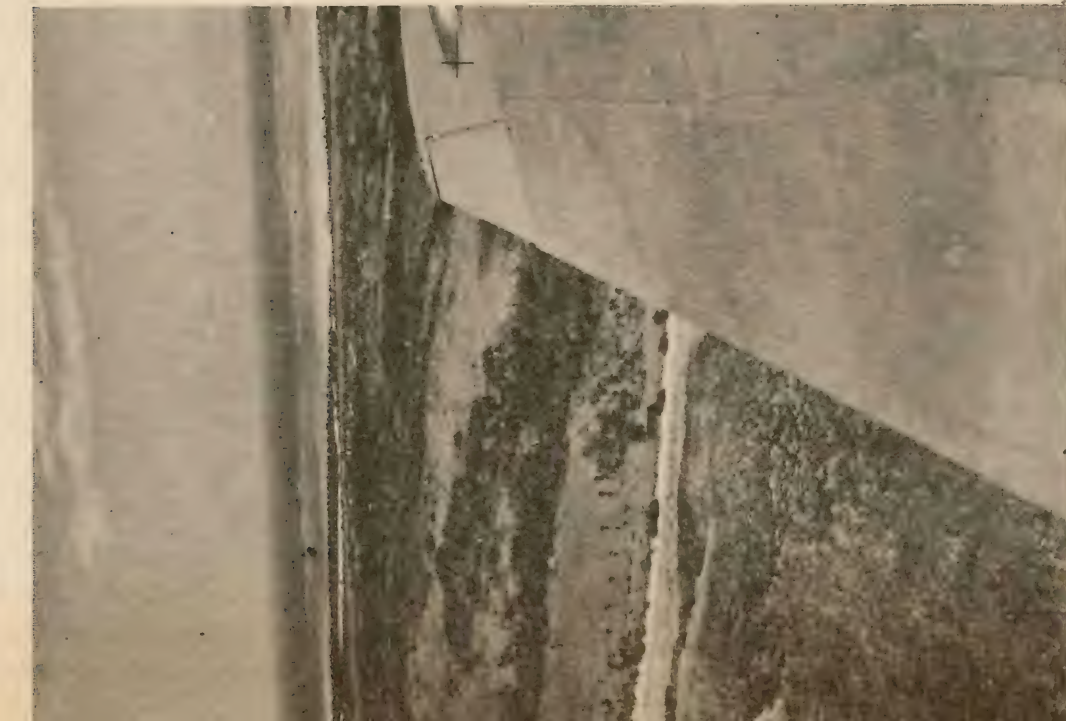


(f)

5. Salaroe Island Obliques 6 Apr 44. 5(f) shows the SW portion of the beach at Lemian Anchorage.

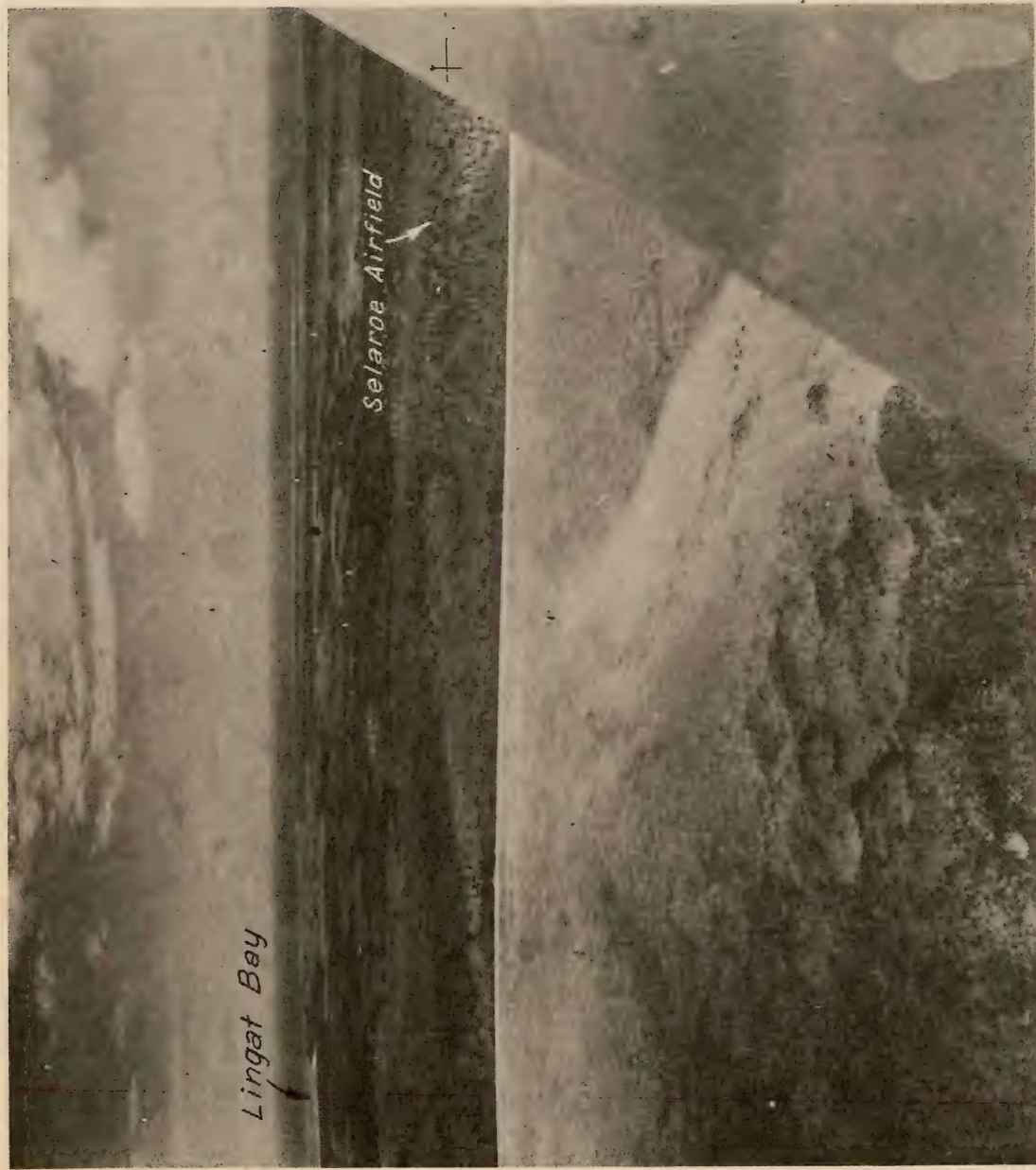


(c)



5. Selaroe Island Obliques 6 Apr 44. 5(f) shows the SW portion of the beach at Lemian Anchorage.

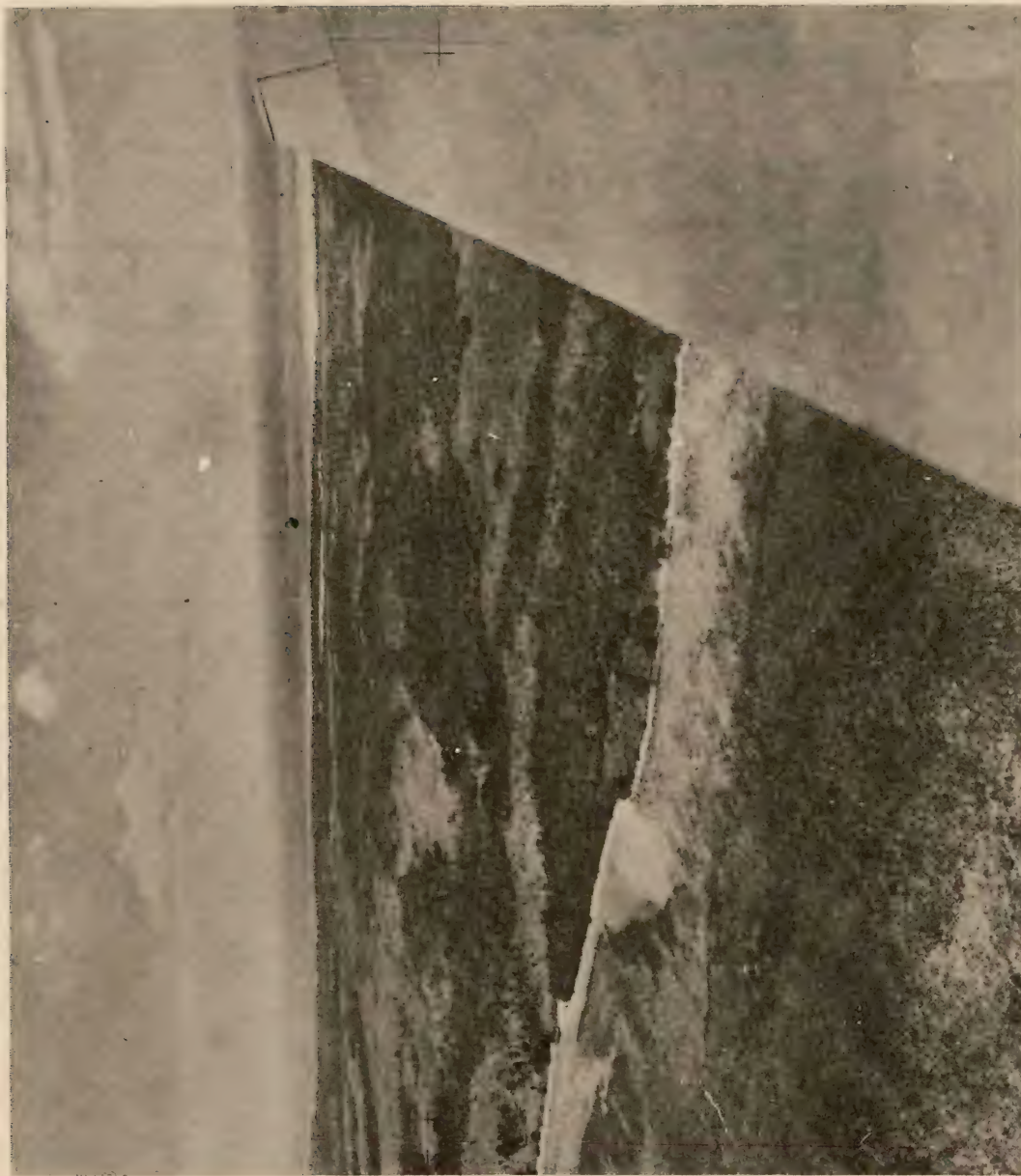
(f)



(a)



(b)



(d)



(e)



(a)



(b)



(c)



(d)

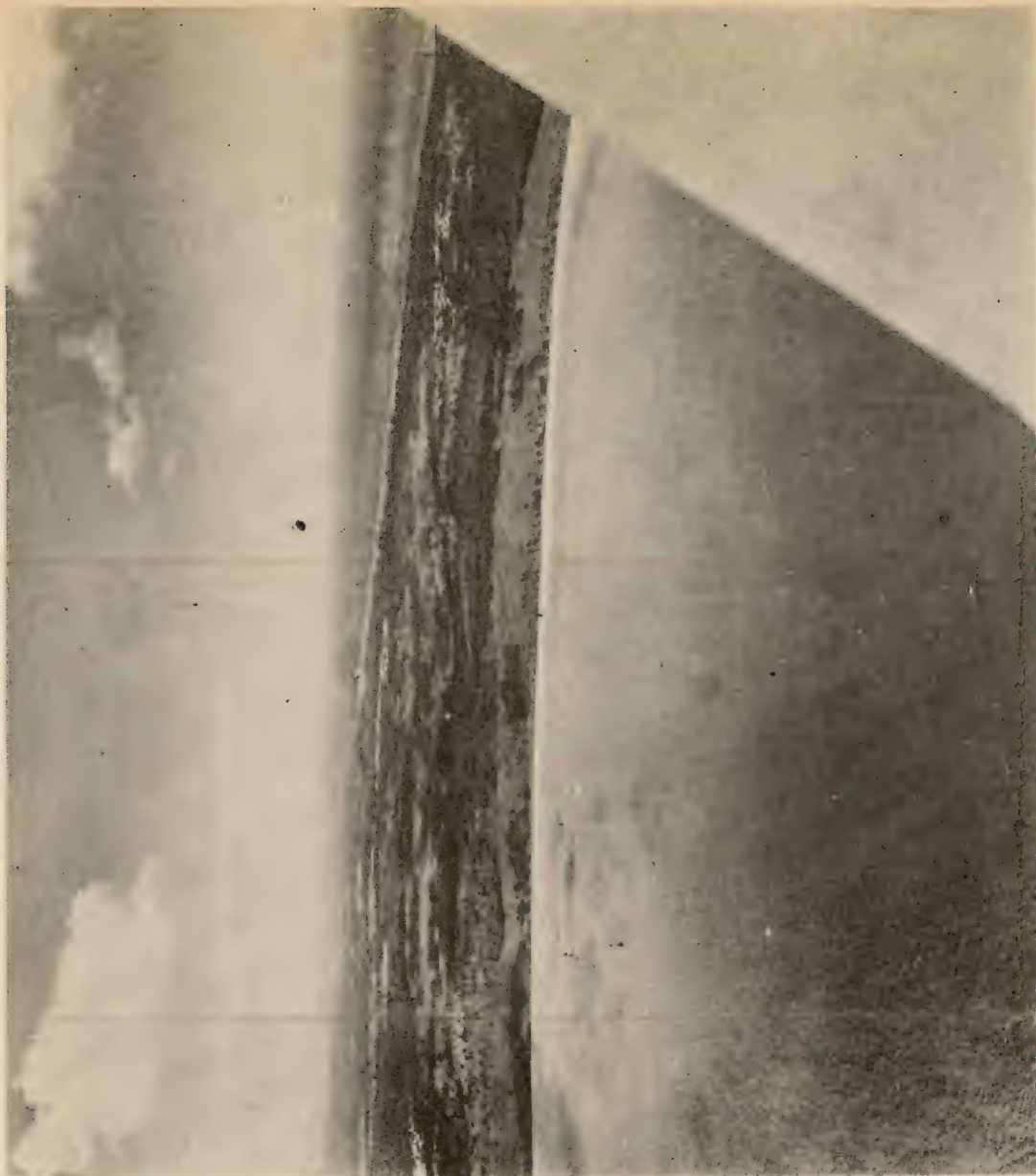


(e)



(f)

6. Selaroe Island Obliques 6 Apr 44. 6(b) shows the landing beach at Lemian Anchorage.



(c)



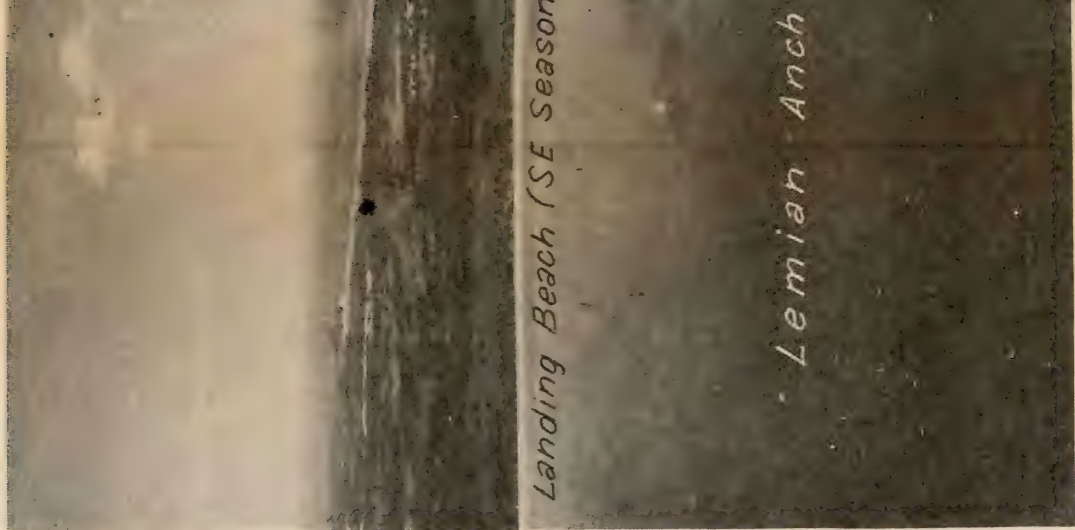


(f)

6. Selaroe Island Obliques 6 Apr 44. 6(b) shows the landing beach at Lemian Anchorage.



(a)



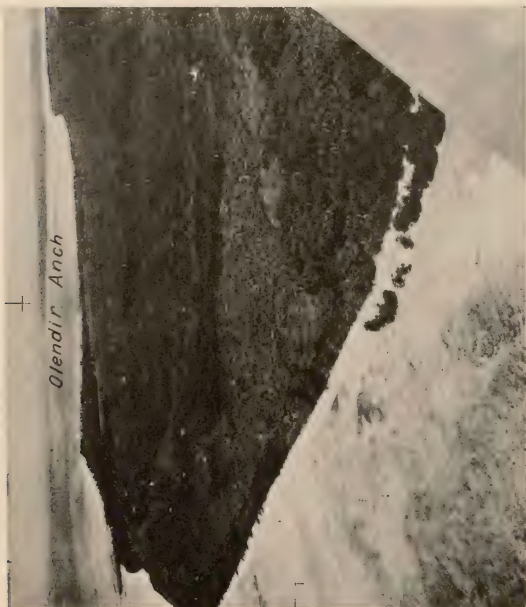
(b)



(d)



(e)



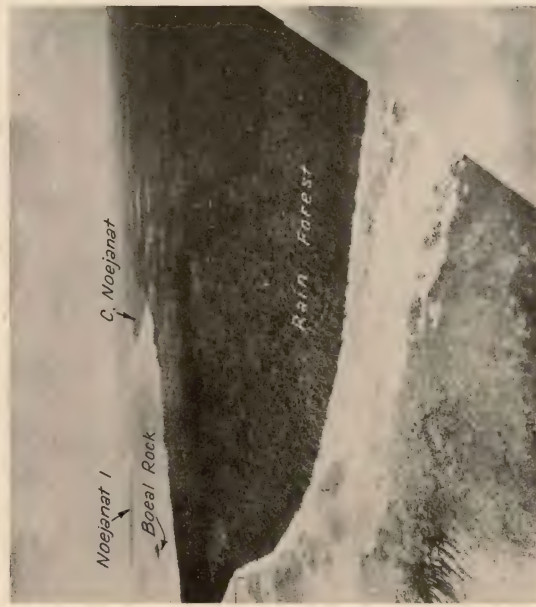
(a)



(b)



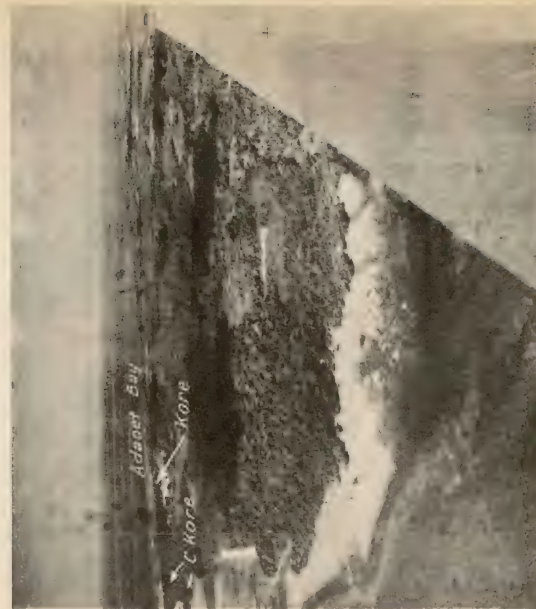
(c)



(d)



(e)

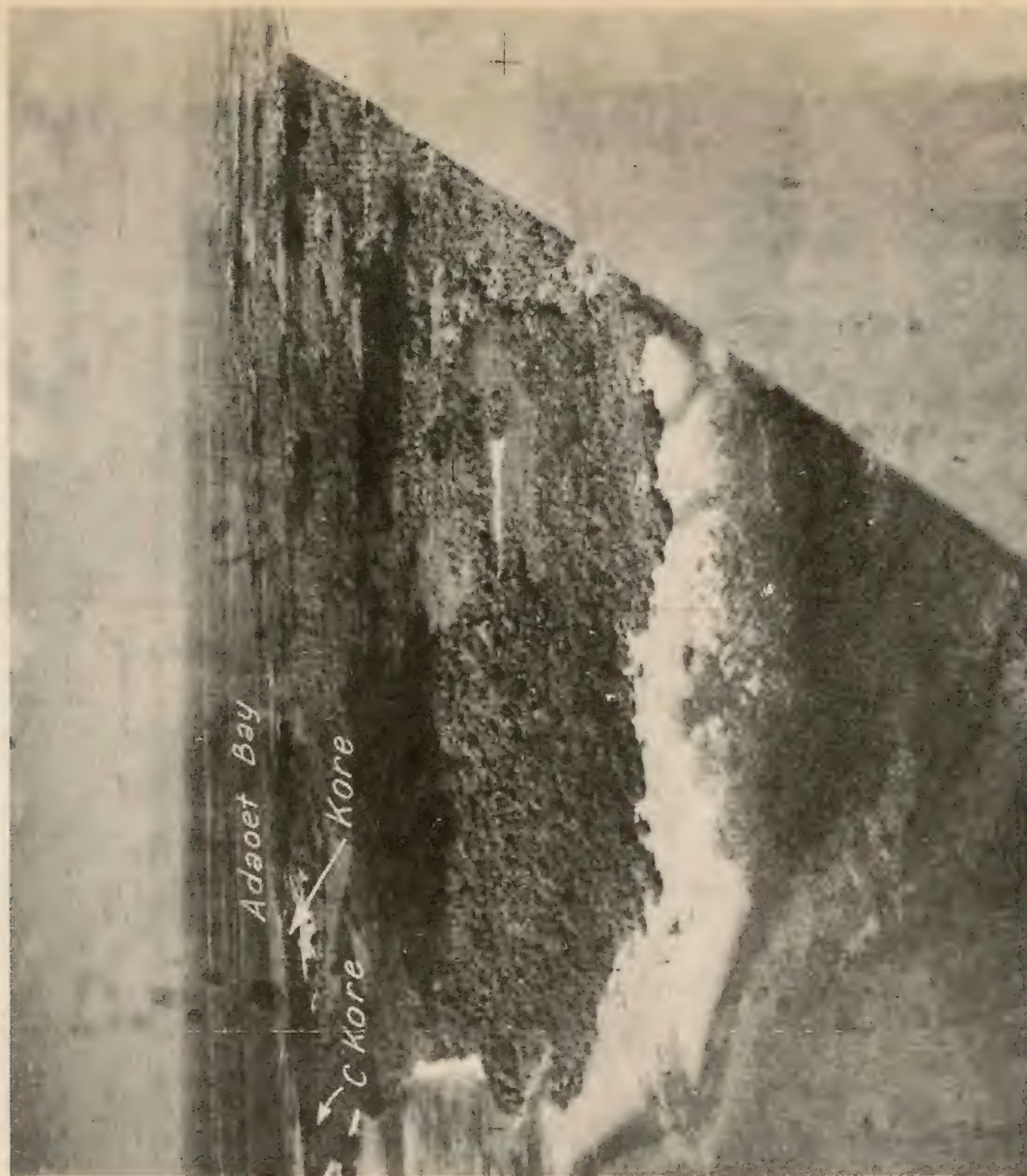


(f)

7. Sclaroe Island Obliques 6 Apr 44. 7(b) and 7(c) show Olendir Anchorage.

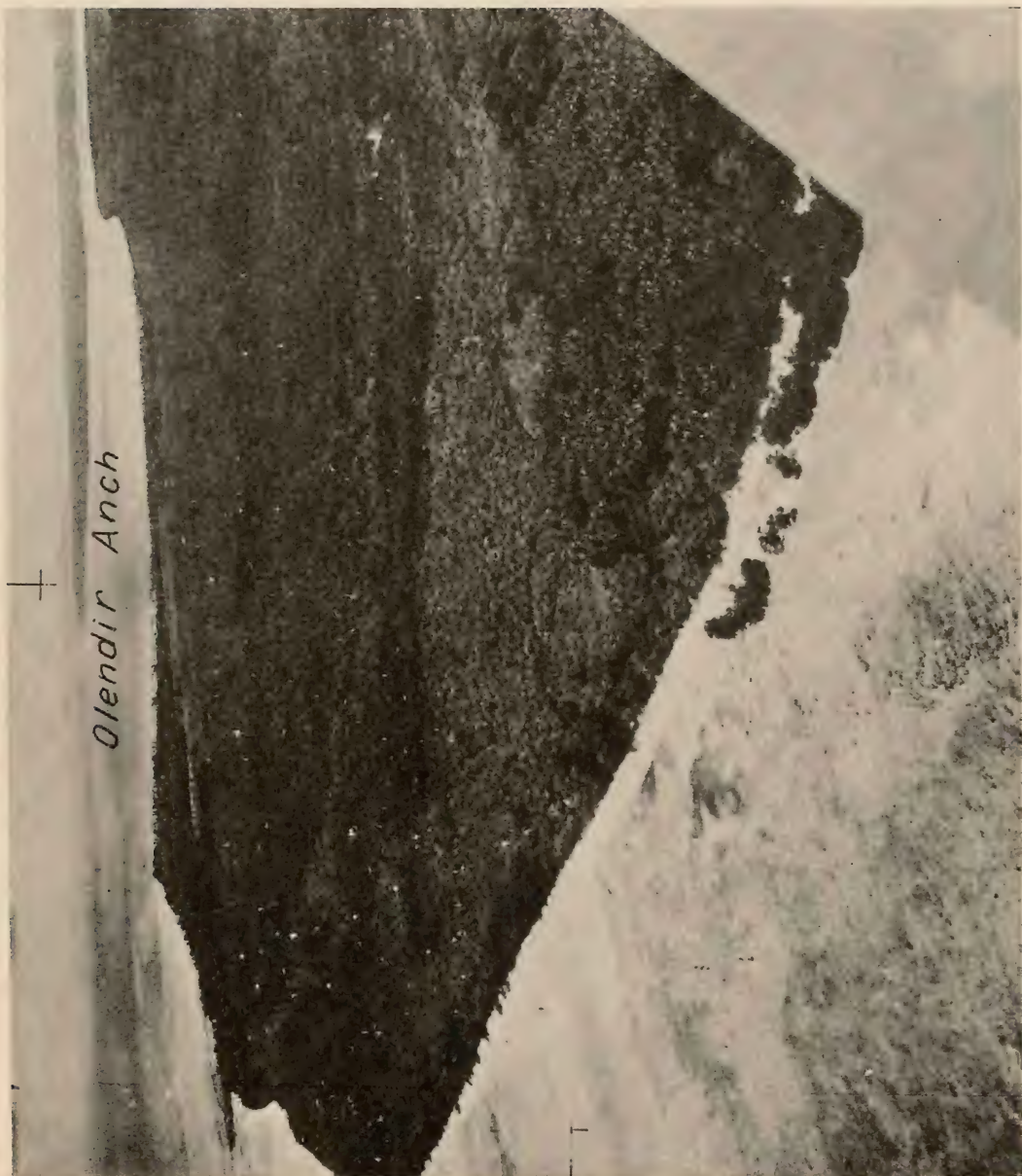


(c)

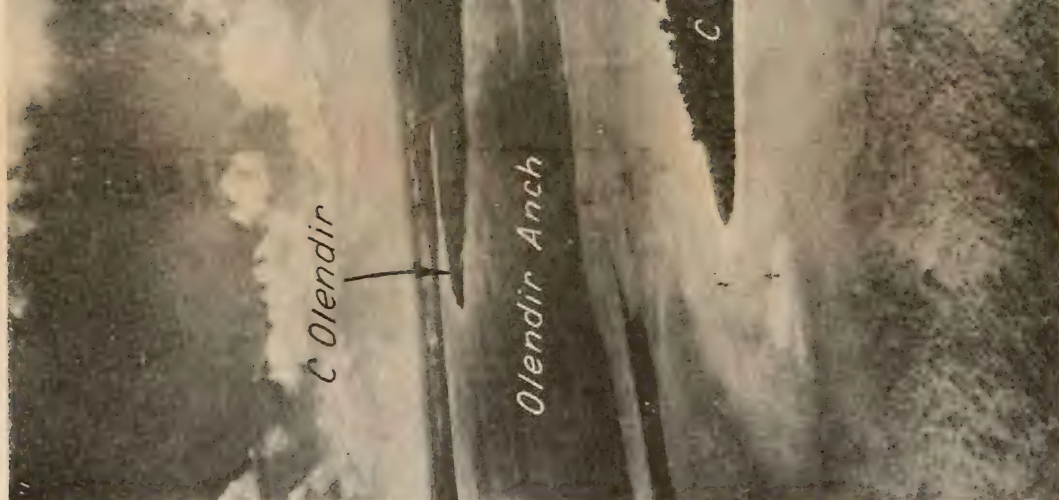


(f)

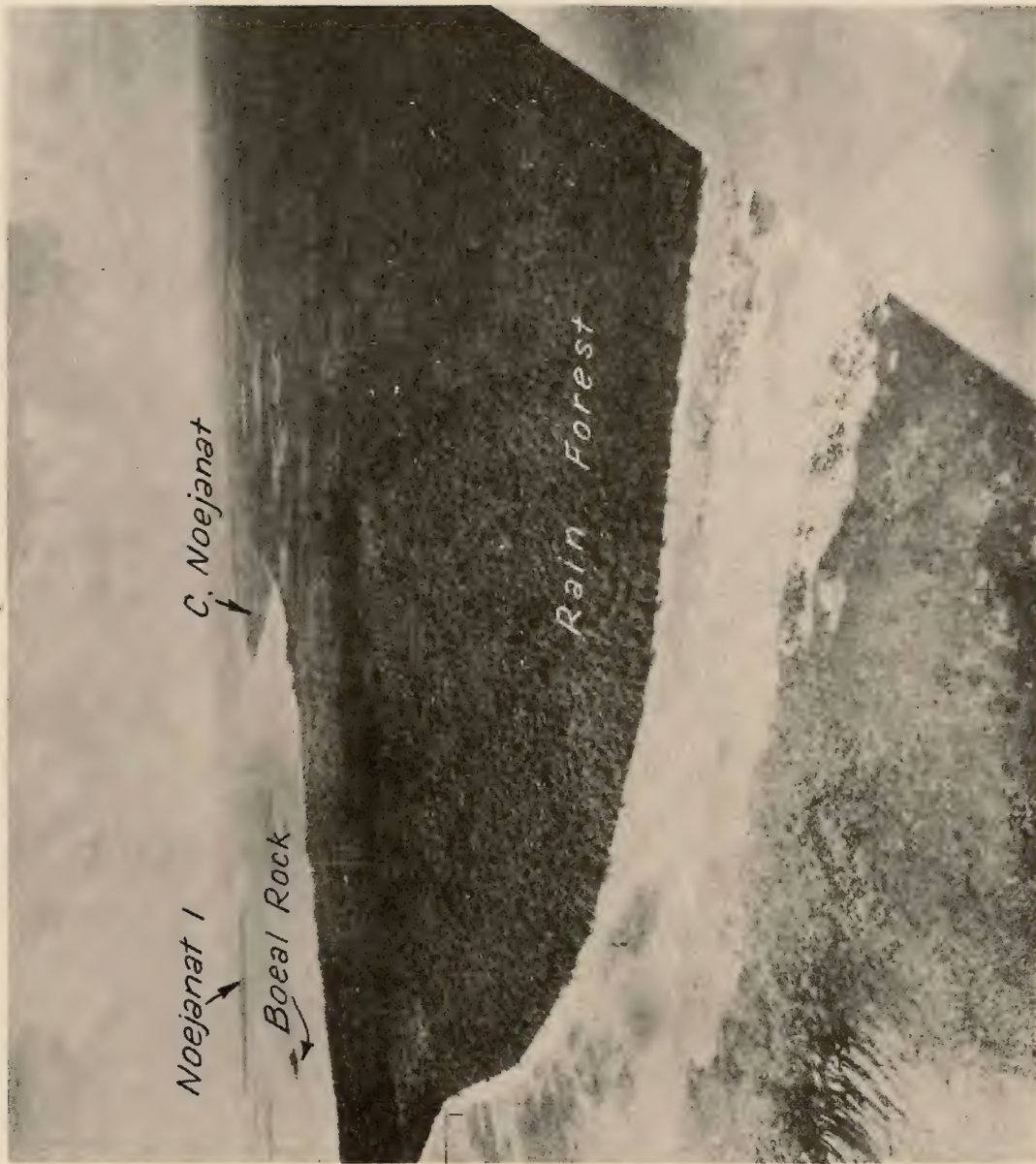
7. Selaroe Island Obliques 6 Apr 44. 7(b) and 7(c) show Olendir Anchorage.



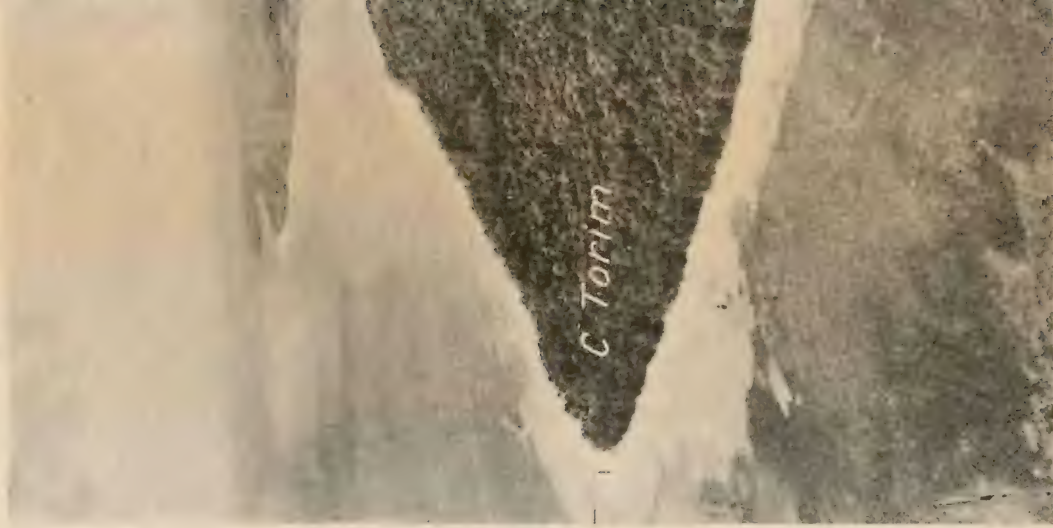
(a)



(b)



(d)



(e)



(a)



(b)



(c)



(d)



(e)



(f)

8. Salaroe Island Obliques 6 Apr 44. 8(d) shows the landing beach at Adaoet and 8(f) shows the beach just south of Cape Totoboblain.



(c)

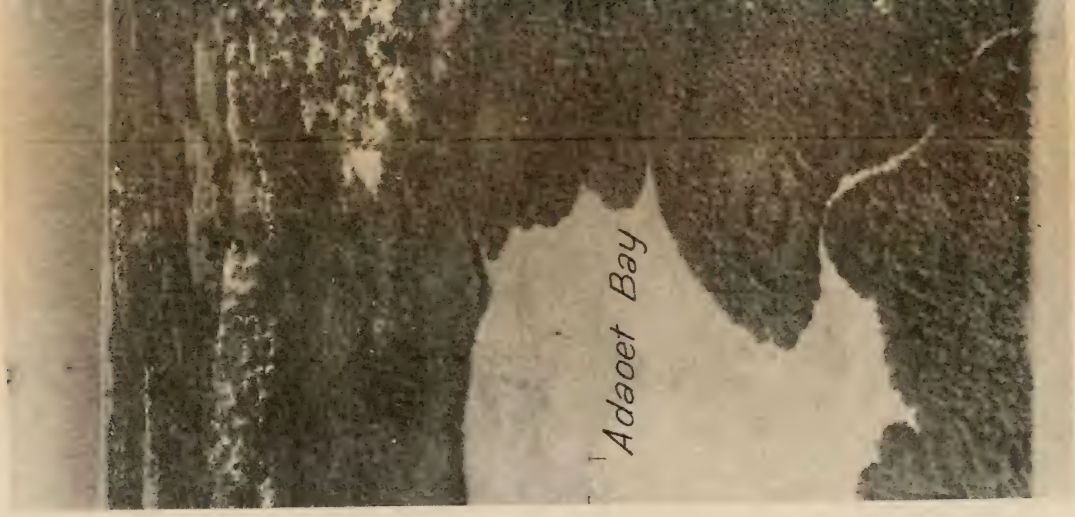




(f) 8. Selaroe Island Obliques 6 Apr 44. 8(d) shows the landing beach at Adaoet and 8(f) shows the beach just south of Cape Totoboelain.



(a)



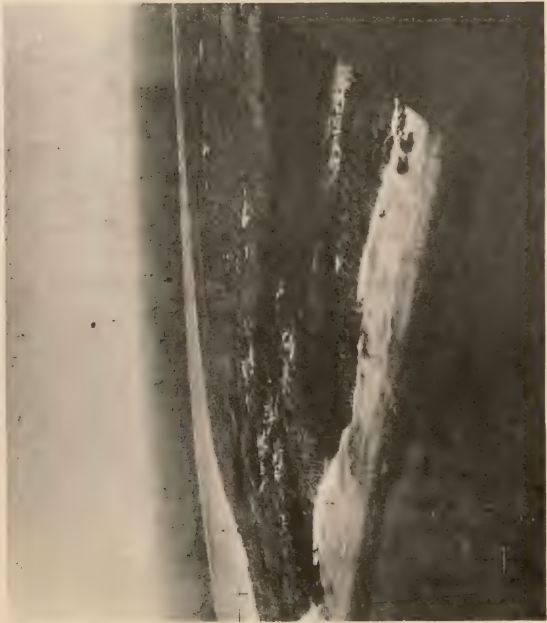
(b)



(d)



(e)



(a)



(b)



(c)



(d)

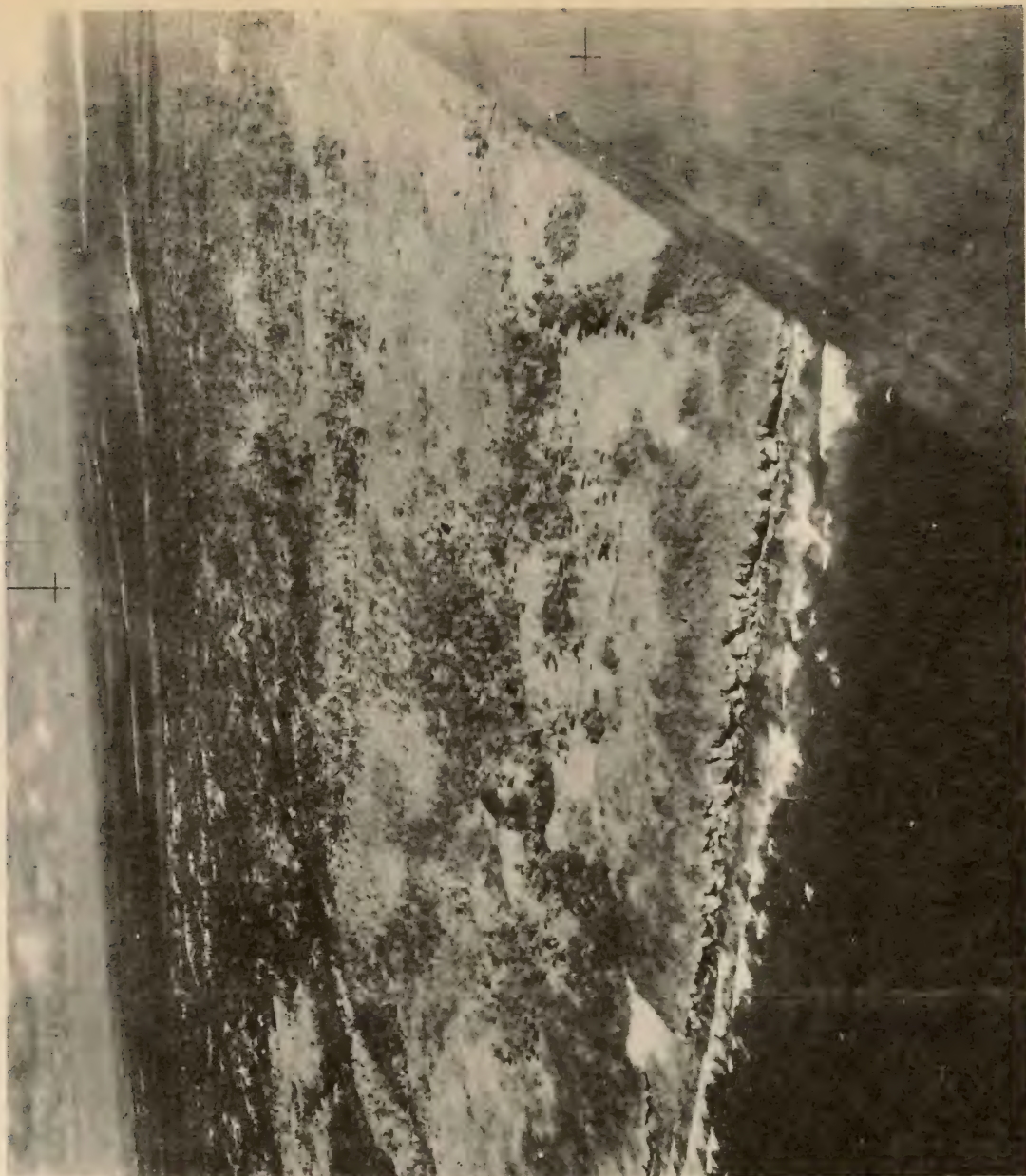


(e)

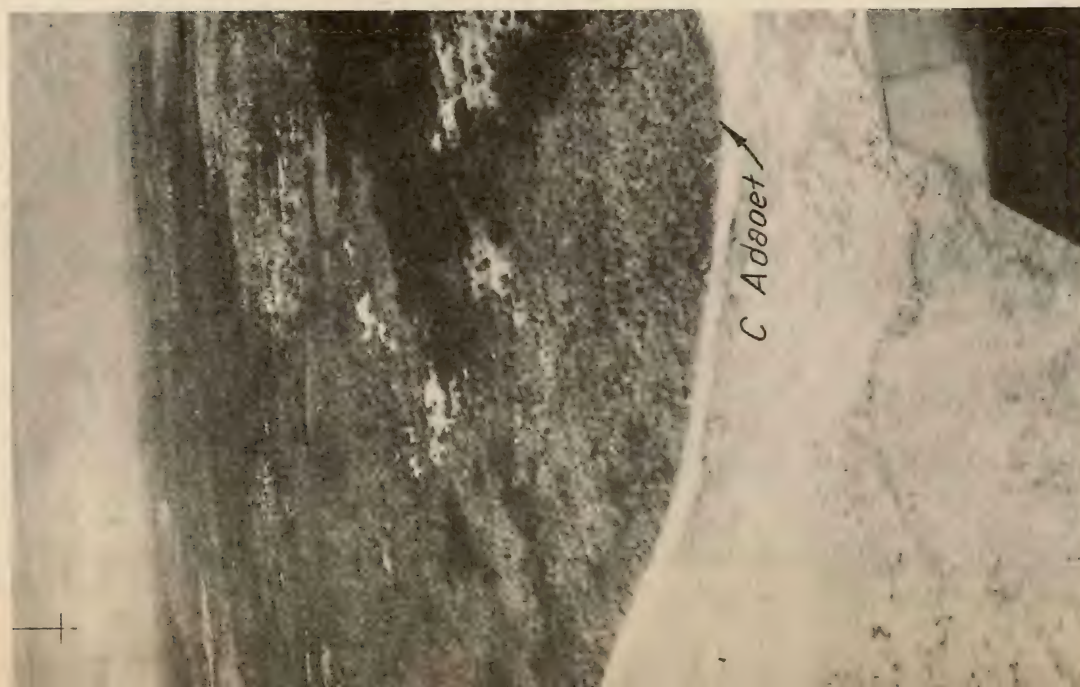


(f)

9. Selaroe Island Obliques 6 Apr 44. 9(c) shows the rocky nature of the NE tip of Selaroe Island.



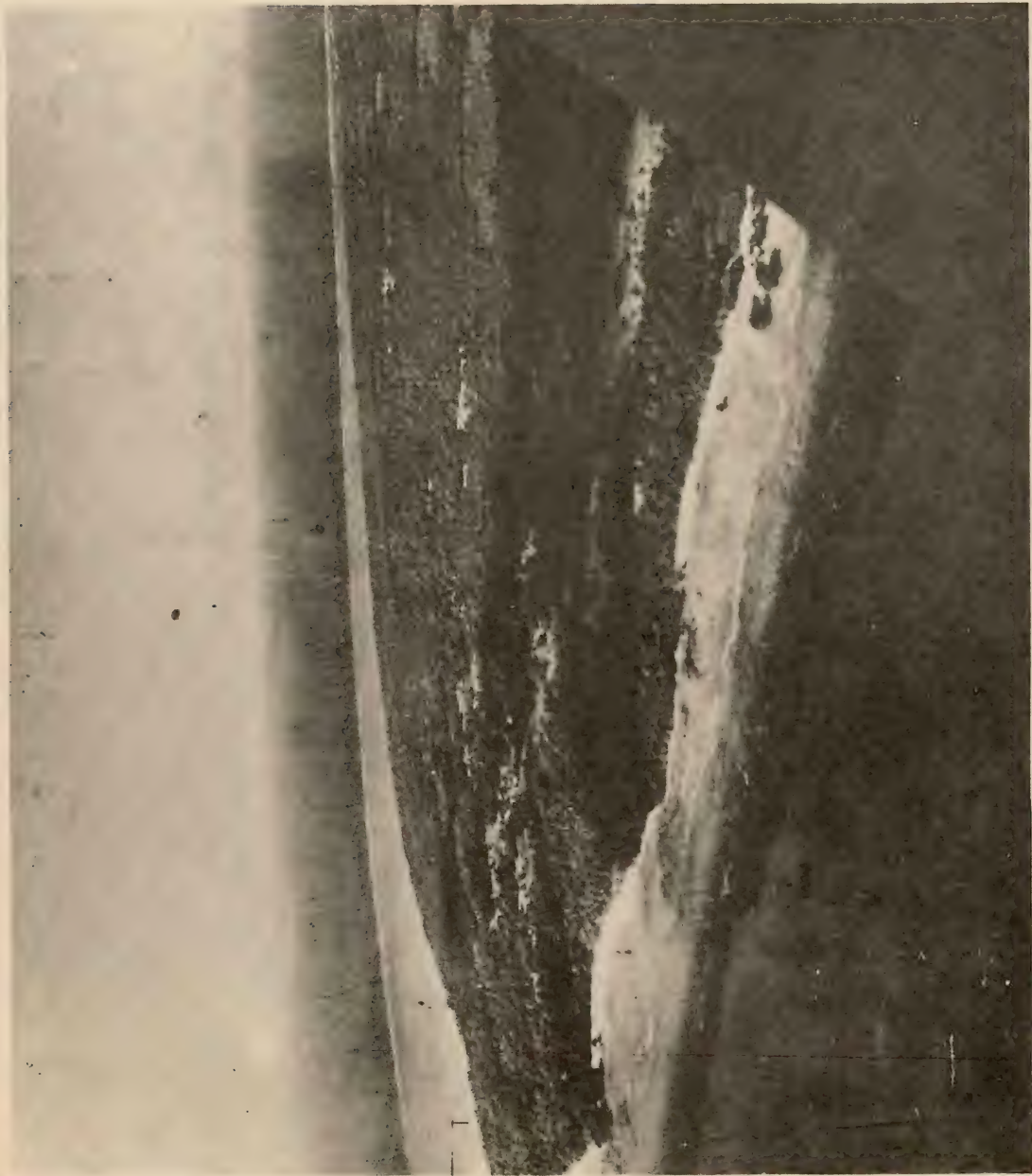
(c)





(f)

9. Selaroe Island Obliques 6 Apr 44. 9(c) shows the rocky nature of the NE tip of Selaroe Island.



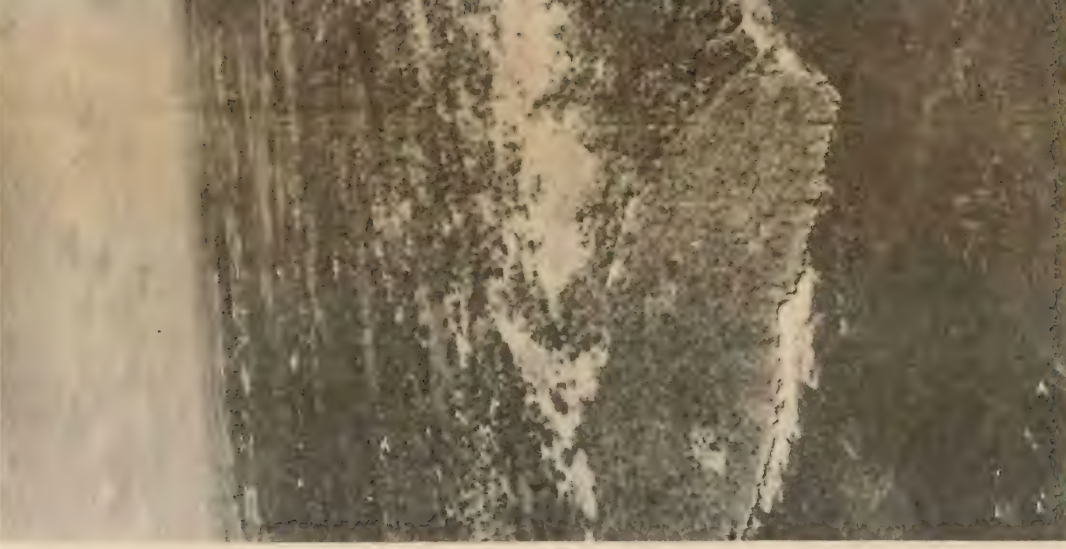
(a)



(b)



(p)



(e)



(a)



(b)



(c)



(d)

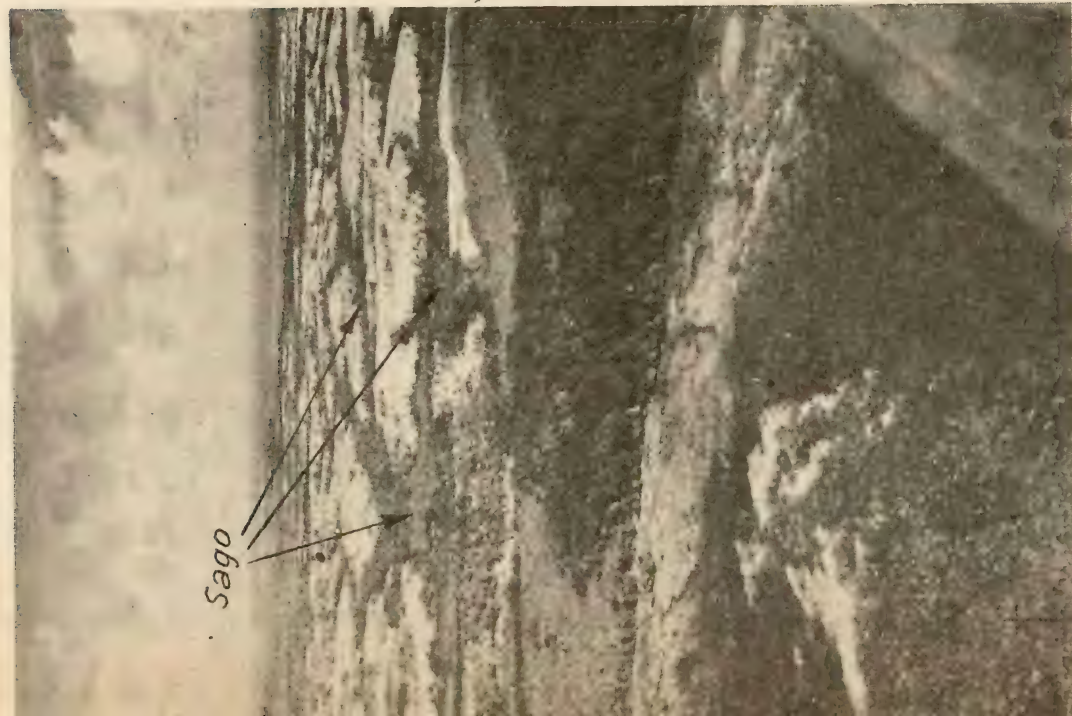


(e)



(f)

10. Salaroe Island Obliques 6 Apr 41. 10(f) shows the landing beach in Lingay Bay.



(c)



(f)

10. Selaroe Island Obliques 6 Apr 44. 10(f) shows the landing beach in Lingat Bay.





(a)



(b)



(d)



(e)



(a)



(b)



(c)



(d)



(e)



(f)

11. Salaroe Island Obliques 6 Apr 44. 11 (e) shows the wide coral reef fringing the SE coast of Salaroe Island.



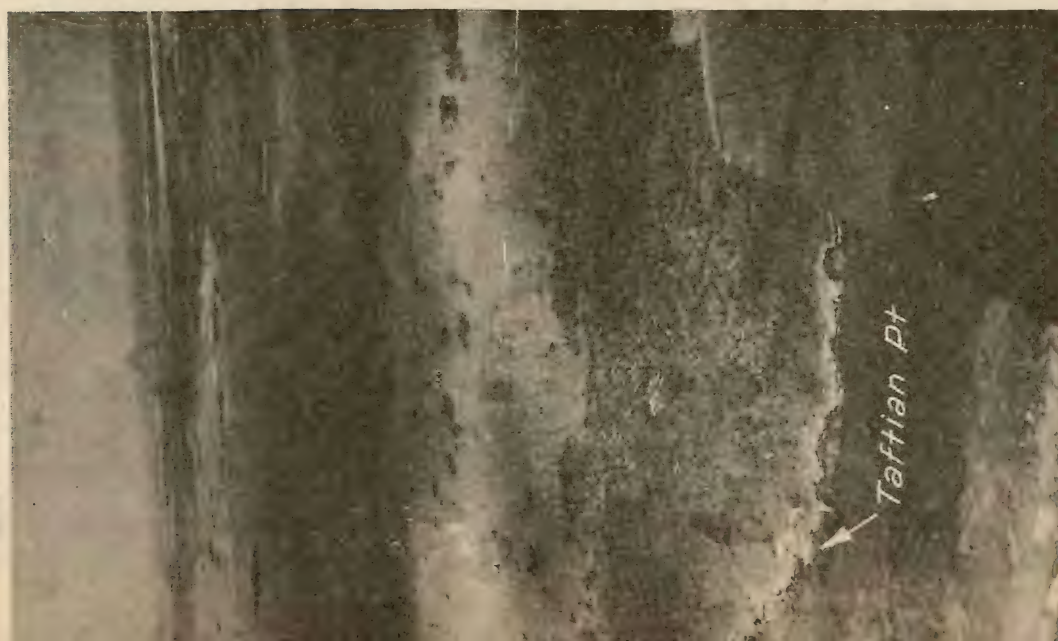
(c)





(f)

11. Selaroe Island Obliques 6 Apr 44. 11(e) shows the wide coral reef fringing the SE coast of Selaroe Island.





(a)



(b)



(d)



(e)



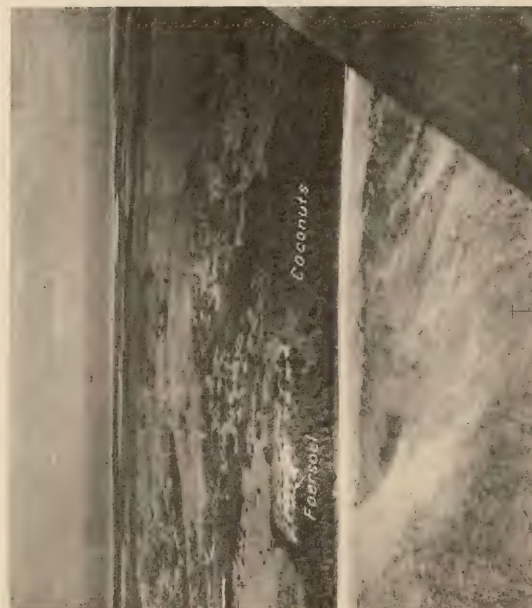
(a)



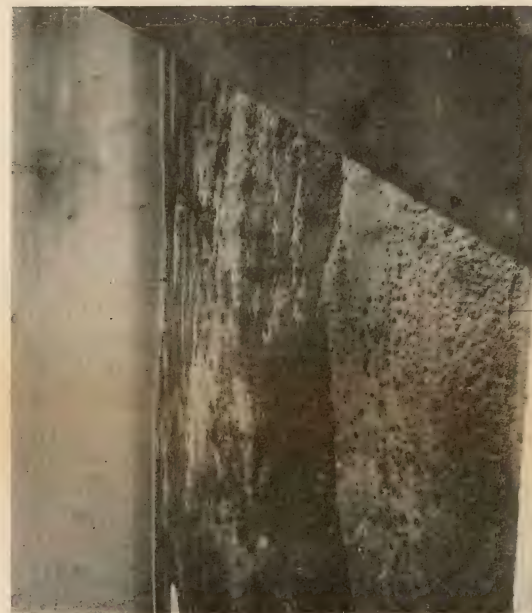
(b)



(c)



(d)

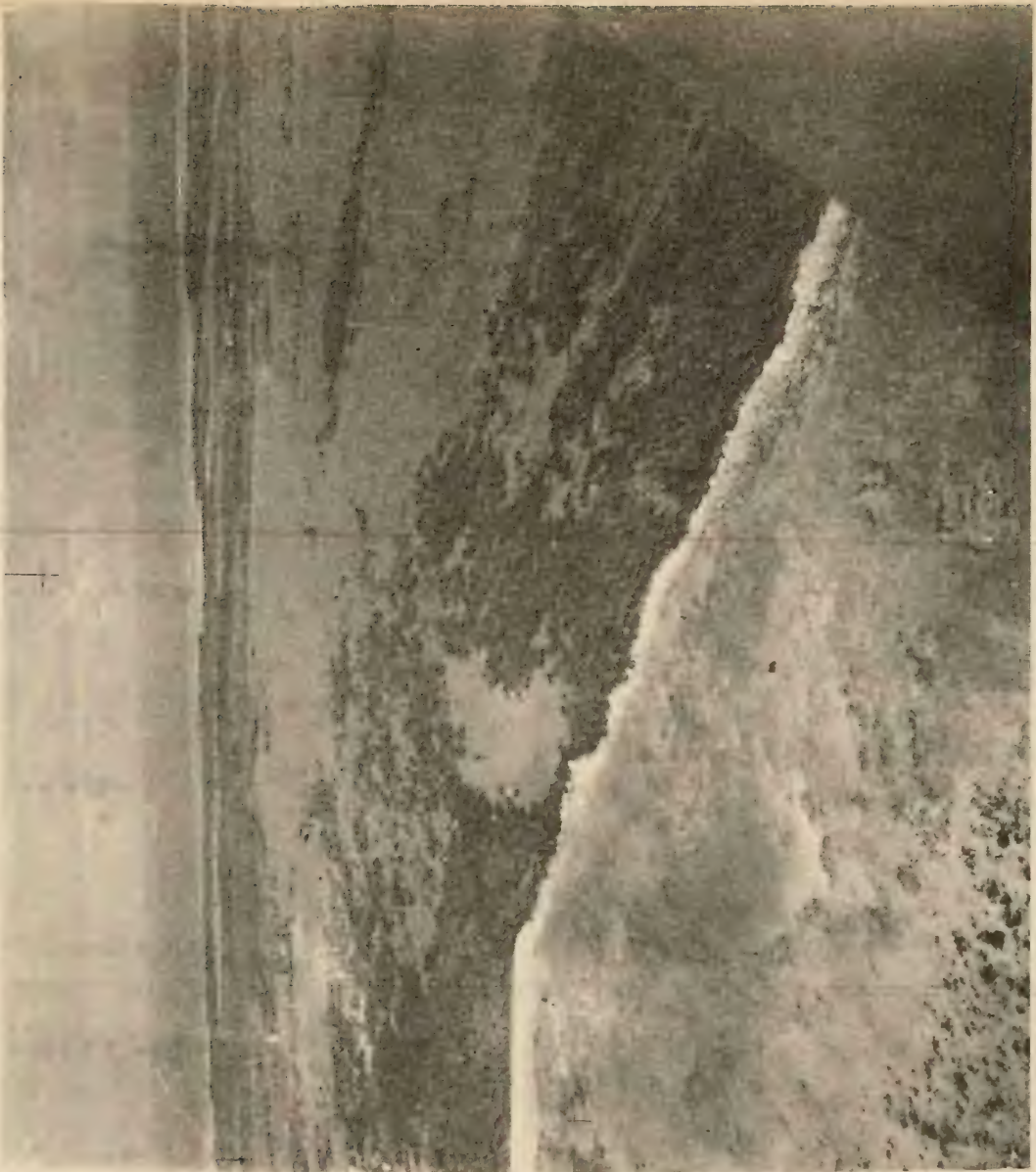


(e)



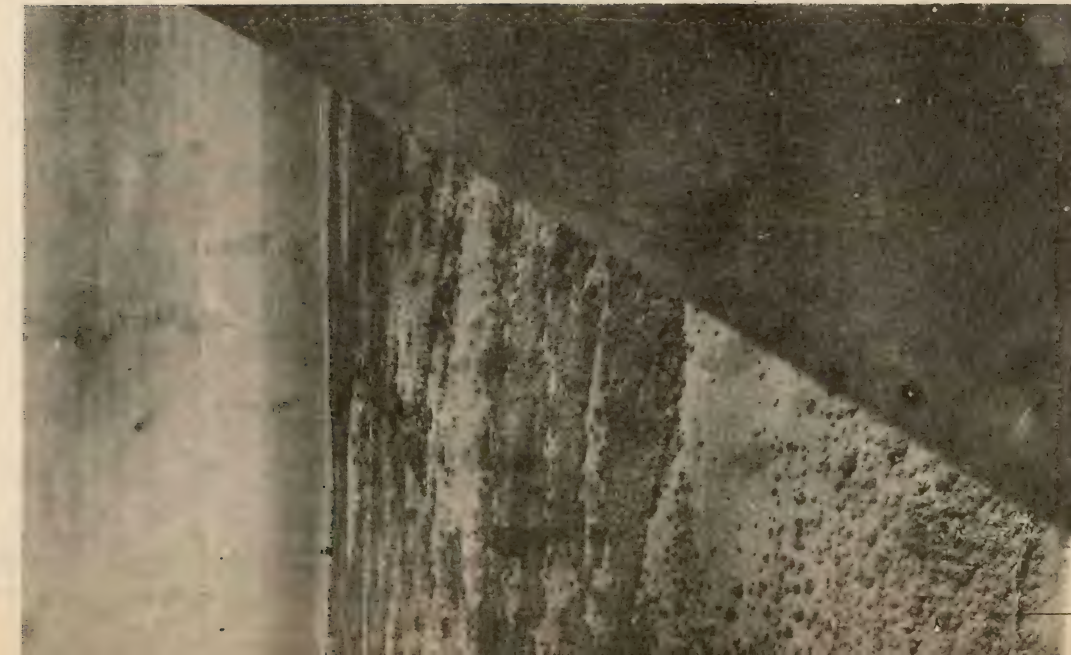
(f)

12. Salaroe Island Obliques 6 Apr 44. 12(d) shows the beach at Foersol village.



(c)





(f)

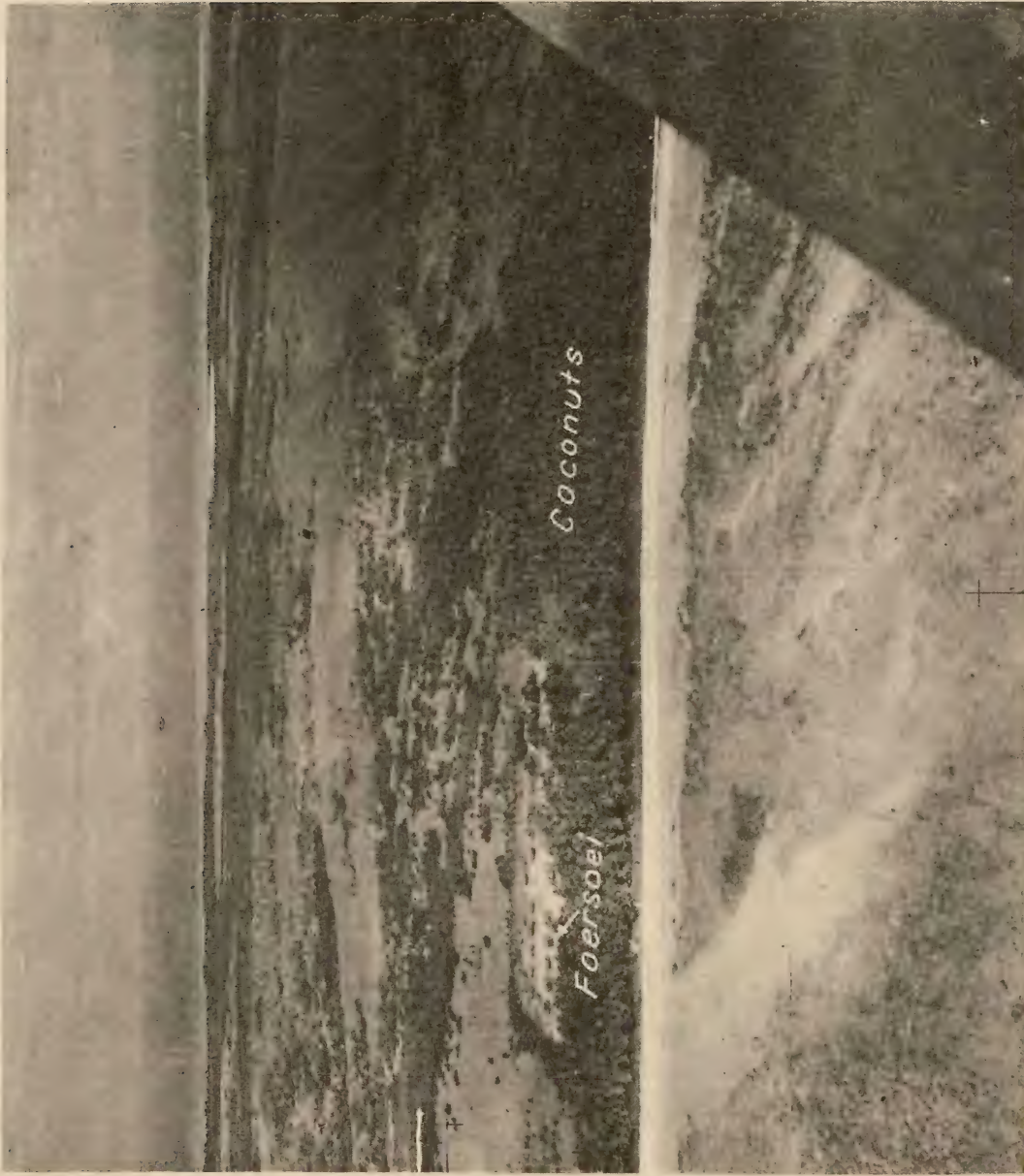
12. Selaroe Island Obliques 6 Apr 44. 12(d) shows the beach at Foersoei village.



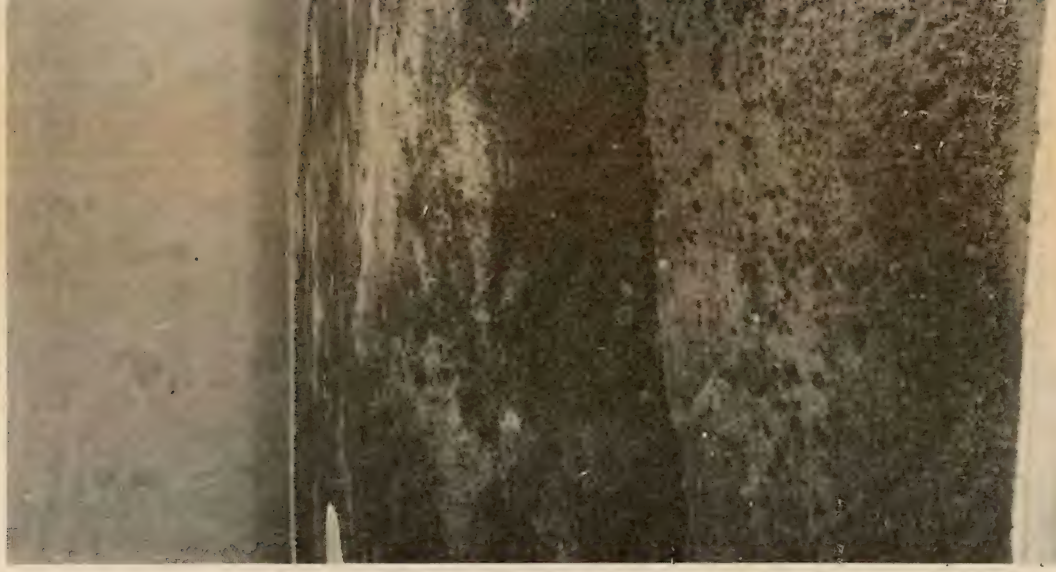
(a)



(b)



(d)



(e)



13. Kandar Village and beach. Vertical. 7 Apr 44.



14. Laoerang Village and beach looking NW. 26 Jan 43.



15. Saumlaki Bay looking NW. 26 Jan 43.



Limestone
Ridges

Alford 3 miles

M T track

Tronchis

Tronchis

Probably
same as
Tronchis
Person

possibly
same as
Tronchis
Person

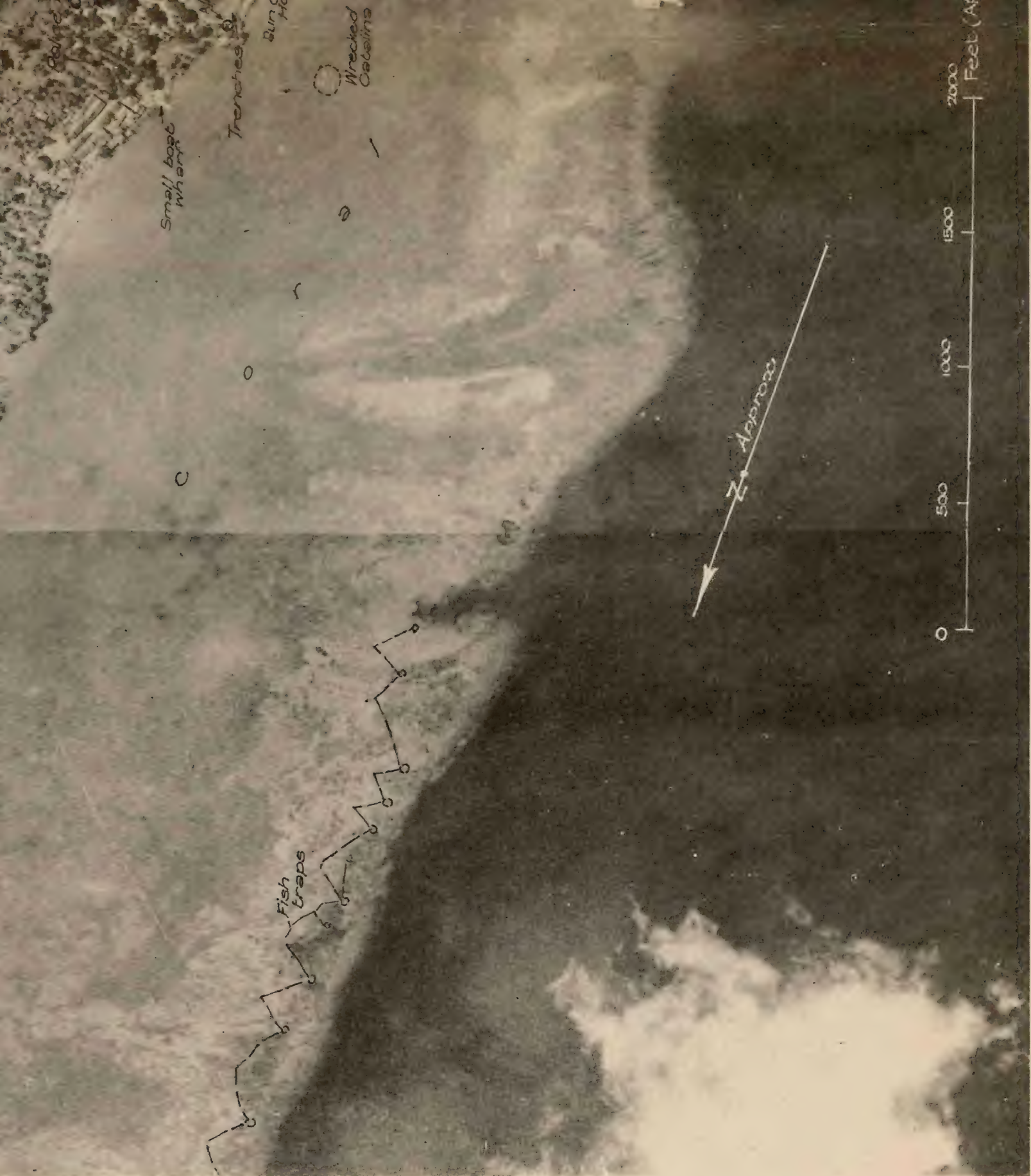


16. Saumlaki Town. Vertical. Mosaic. 15 Mar 44.

Terrain rises sharply to low hills

Slit Trenches

M. Track to Laocang





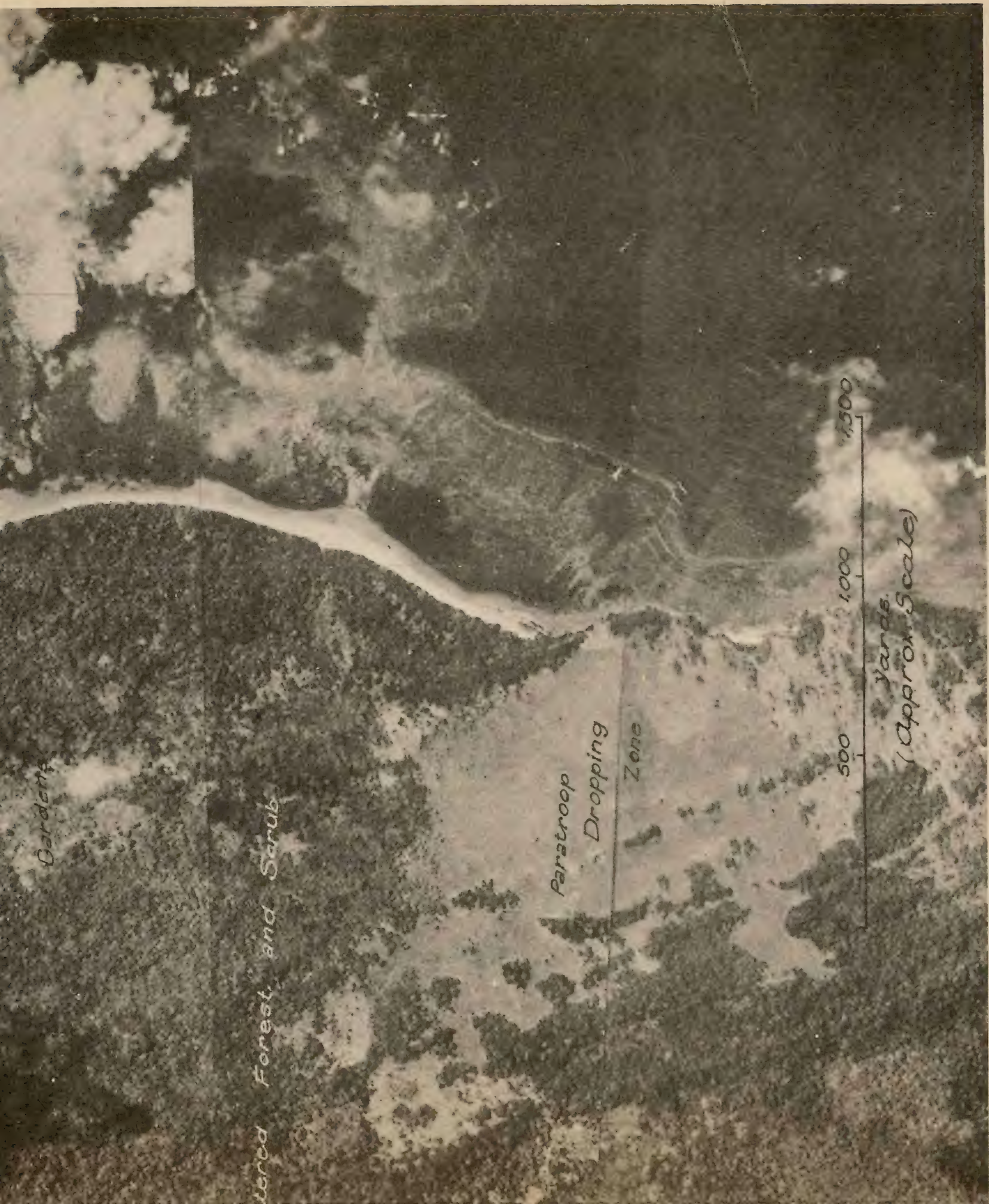
17. Saumlaki Peninsula. Vertical. Mosaic. 11 Aug 43.



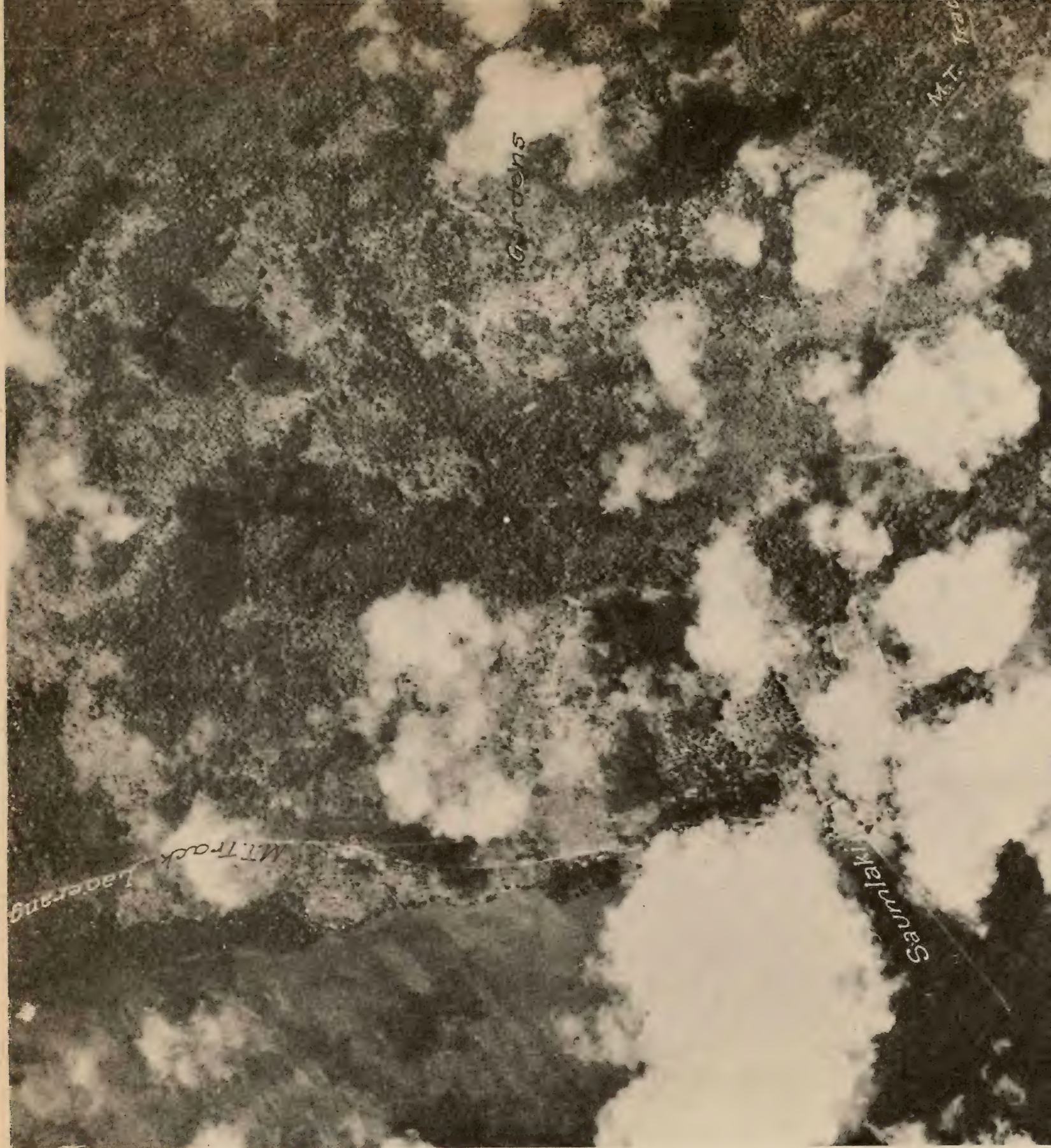
Landing
Beach

ANITA

SABRIS 540



17. Saumlaki Peninsula. Vertical. Mosaic. 11 Aug 43.



Gardens

Mt. Track

Mt. Track
Laering

Saalmann



Gardens

N



18. Egeron Str and SW portion of Jamdena I looking north. 11 Aug 43.



Woeliaroe I

Selon I

Salwassa Bay

Conspicuous Clearing

J a m

C Djasi



ng

dena

↑
Saumlaki Bay

Ngestahoon I



18. Egeron Str and SW portion
Jamdena I looking north. 11 Aug



n of
g 43.



19. C. Djasi and Latdalam. Vertical. Mosaic. 22 Sep 43.



20. Salwassa Bay looking SE. 7 Apr 44.



21. Seira I. Vertical. Mosaic. 7 Apr 44.

0 1,000 2,000 3,000 4,000 yds.
Approx. Scale.

C. Ngo

Approx.

olmoli

erttoetoen -
swampy

Possible
Landing
Beach

Possible Airfield Site

21. Seira I. Vertical. Mosaic. 7 Apr 44.



Reef

Airfield

Landing Beaches

Seira

Possible Airfield Site

Plot M

Site





possib

C. Matloka





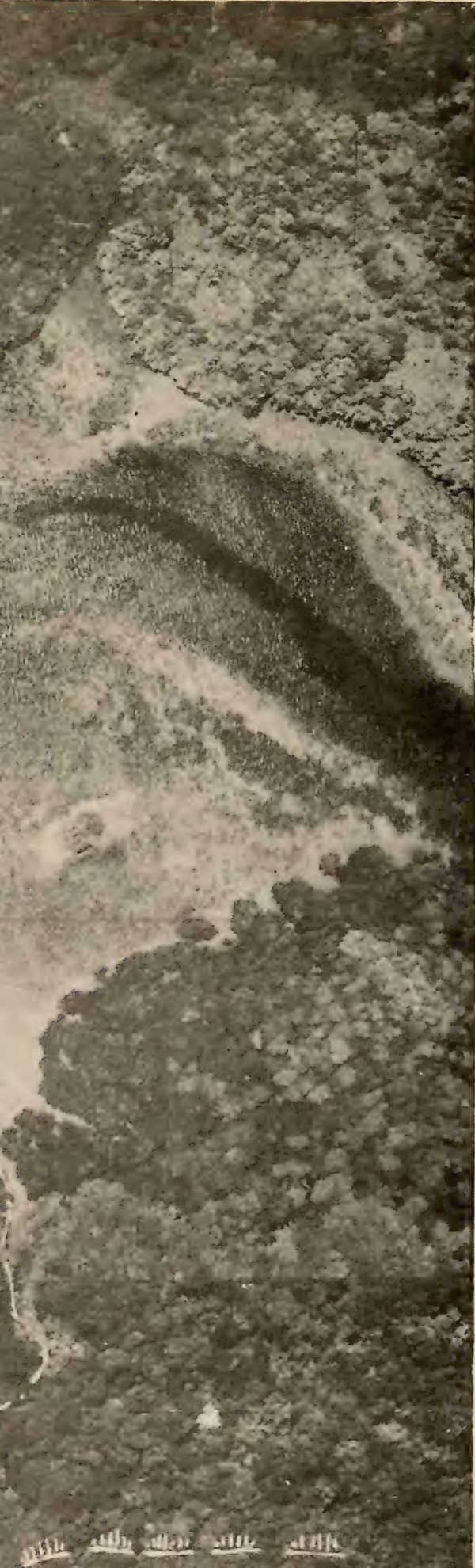
22. Seira Village. Vertical. Mosaic. 19 Apr 43.

An aerial photograph of a coastal area. The top half of the image shows a large, light-colored, sandy or silty area, possibly a beach or a dry riverbed. The bottom half shows a darker, more textured area, likely a forest or dense vegetation. A small, light-colored patch of land is visible in the lower right. Handwritten labels in white ink are present: 'Flat Malmoli' in the center, 'Small Landing Beach' vertically on the left, and 'Low' vertically on the right.

Flat Malmoli

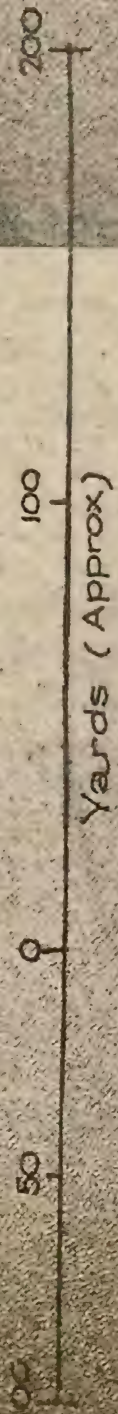
Small Landing Beach

Low



22. Seira Village. Vertical. Mosaic. 19 Apr 43.

d a m d e n a S t r a i t



11 p 1

H 1007

Good Beech Landing

4228

Approx N



Bank.



Seira Village







23. Makatian Village and vicinity
—Jamdena I looking west. 17 Jun 43.



24. Ranarmóje River and Jamdena Str looking NW. 13 Jun 43.



25. Makatian Village and mouth of
Ranarajoje River looking SE. 7 Apr 44.



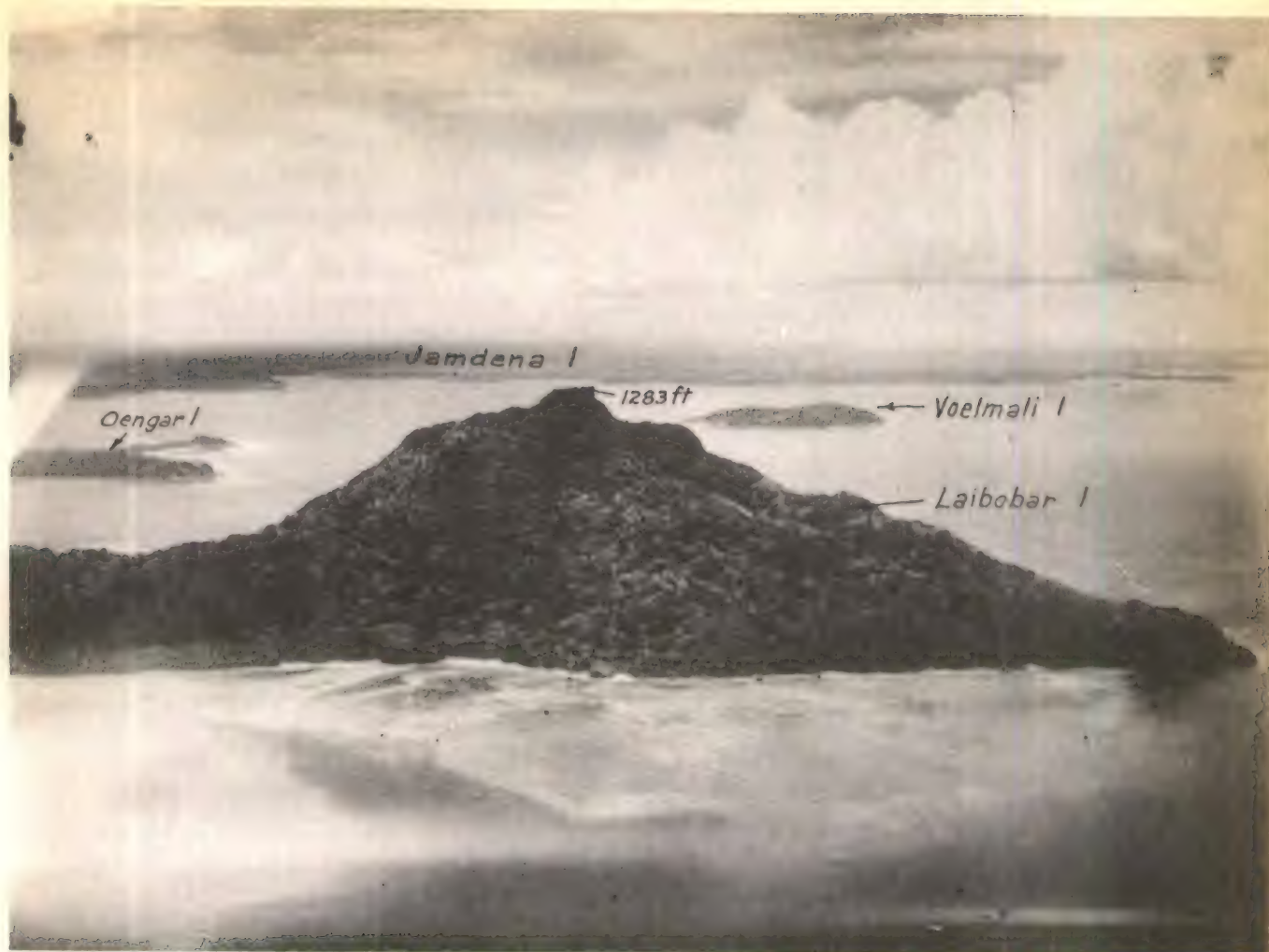
26. Seloe and Woeliaroe Islands
looking NW. 7 Apr 44.



27. Wotap I and NE end of Jamdena
Str looking SE. 7 Apr 44.



28. Laibobar I and vicinity looking NW. 7 Apr 44.



29. Laibobar I looking SSE. 12 Nov 43.



30. Namwaan and Itain Islands
looking WNW. 22 Aug 43.



31. Mitak and Adjacent Islands looking NW. 7 Apr 44.



32. Moloe Island looking SW. 29 Aug 43.



33. Larat Village and Ritabel Bay looking SE. 1 Jun 44.



34. Larat Village looking NE. 20 Nov 42.



35. Larat Island looking SE. 7 Apr 44.



36. Fordate Island looking west. 24 Jul 43.



37. Villages of Roem ngewoer and Roemjaan—Fordate I. Vertical. 24 Jul 43.

38. Northern part of Jamdena I
looking NNW. 13 Jun 43.

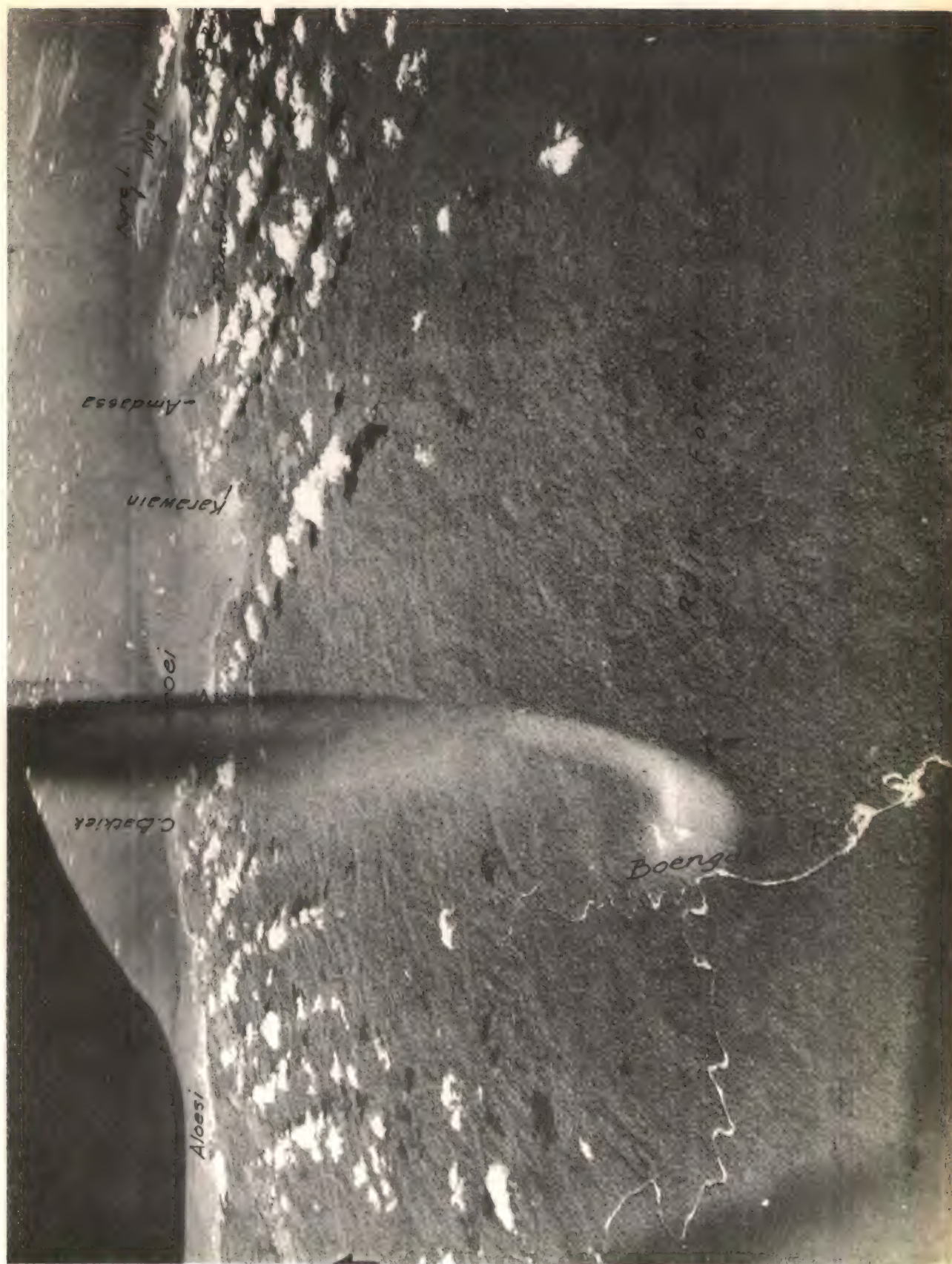




39. Arma and Watmoeri villages—
Jamdena I looking ESE.



40. Portion of east coast Jamdena I looking SE. 13 Jun 43.



41. Portion of east coast Jamdena I
looking SE. 13 Jun 43.



42. Mangloesi Bay looking NW. 23 Aug 43.



43. Vicinity Kilmasa Lambasemboen Village— Jamdena I looking NW. 24 Oct 43.



44. Vicinity Tambrian R looking NW—Typical of terrain on east coast of Jamdena I. 24 Oct 43.

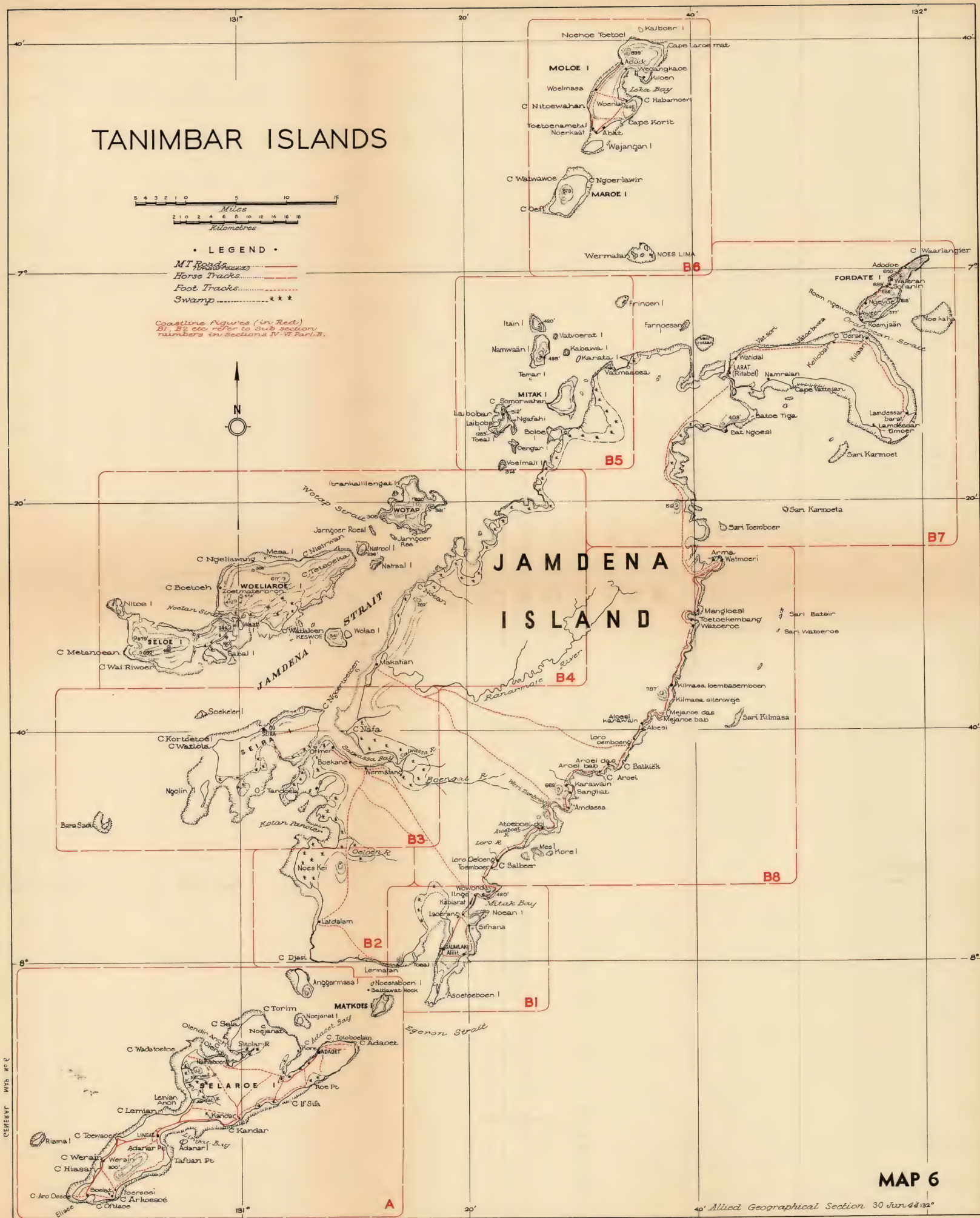
TANIMBAR ISLANDS



• LEGEND •

MT Roads
Horse Tracks
Foot Tracks
Swamp

Coastline Figures (in Red)
B1, B2 etc refer to Sub section
numbers in Sections IV-VI Part B.



MAP 6

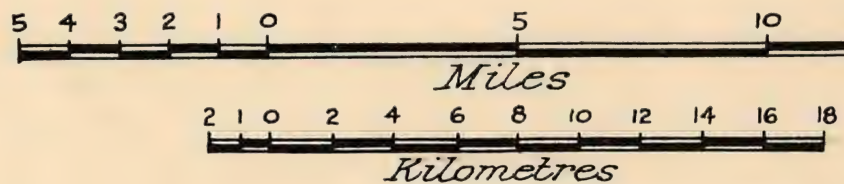
40' Allied Geographical Section 30 Jun 44/132°

AGS/HQ106/44

131°

40'

TANIMBAR ISLAND



• LEGEND •

MT Roads.....
(unsurfaced).....
Horse Tracks.....
Foot Tracks.....
Swamp.....

Coastline figures (in Red)
B1, B2 etc refer to Sub section
numbers in Sections IV-VI Part

7°

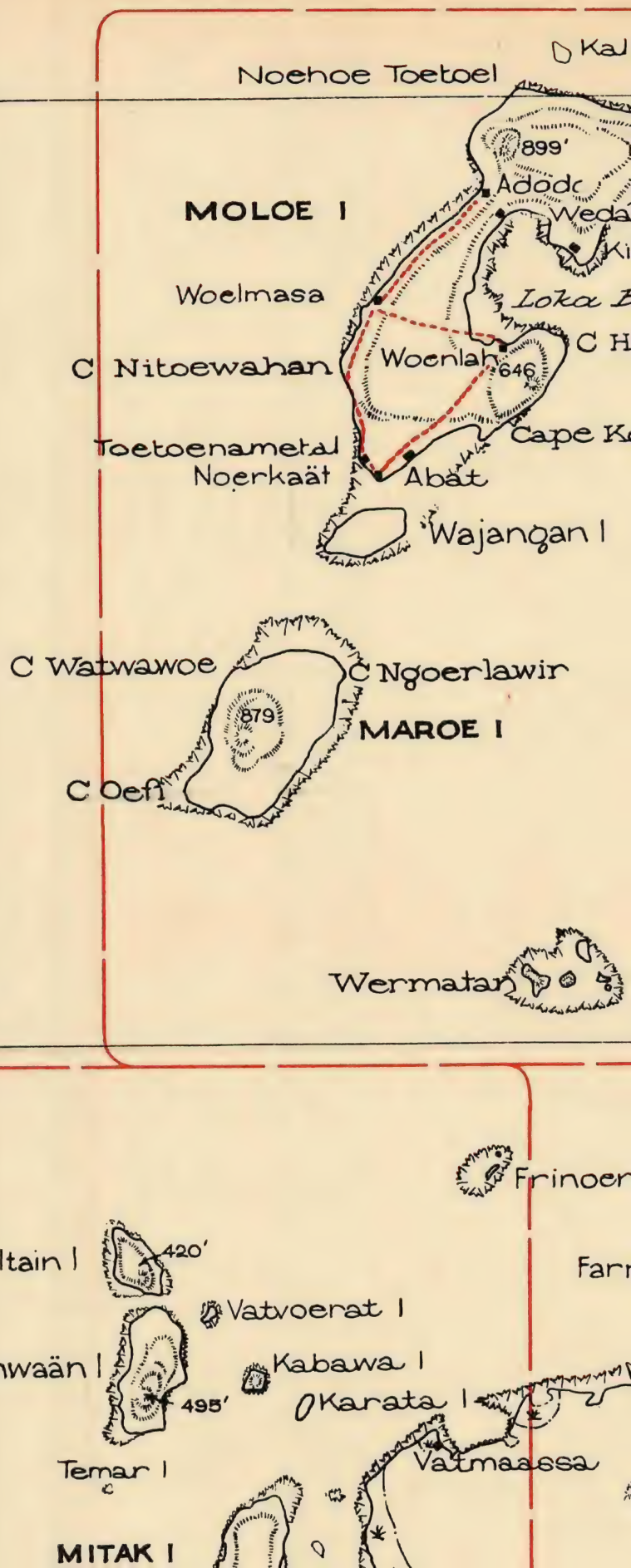


LANDS

20'

15

B.

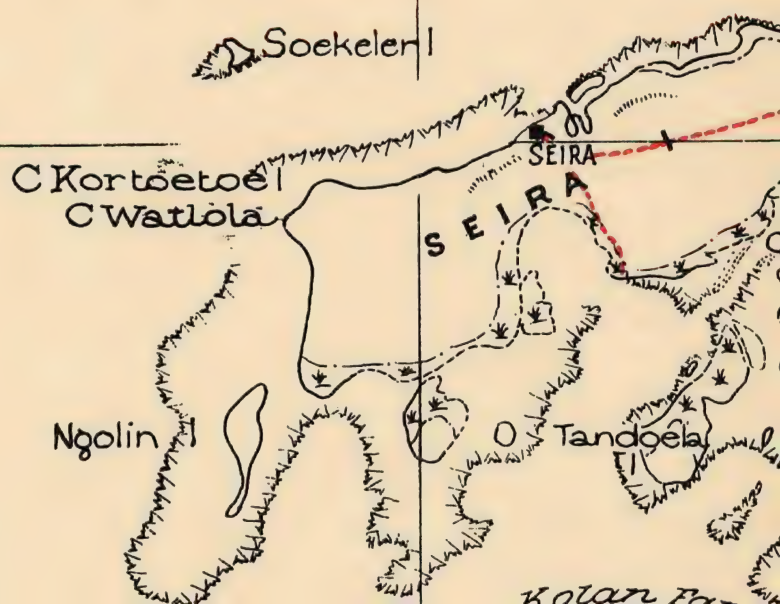




20'



40'







CEMERAT WAB NO 8



B3
Oeloeng R
s Kei
Atoeboel R
Loro R
Loro Oeloeng
Toemboer
C Salbeer
Mesl
Korel

Latdalam
B2
Wowonda
Ilige
Kabiarat
Laoerang
Mitak Bay
Noean I
Sifhana
SAUMLAKI
Alilit

Lermatan
Anggarmasa I
Noestaboen I
• Battjawat Rock
Asoetoeboen I
B1

MATKOES I
bejanat I
Adaoet Bay
C Totoboelain
C Adaoet
ADAOET
Roe Pt

Egeron Strait

ifa

A

20'

B8

8°

MAP 6

40' Allied Geographical Section 30 Jun 44 132°

AGS/HQ 106/44

SOUNDINGS IN METRES



TANIMBAR-EILANDEN

1:250 000

Groot Oorlogsgevoel, Ertel 1923-25

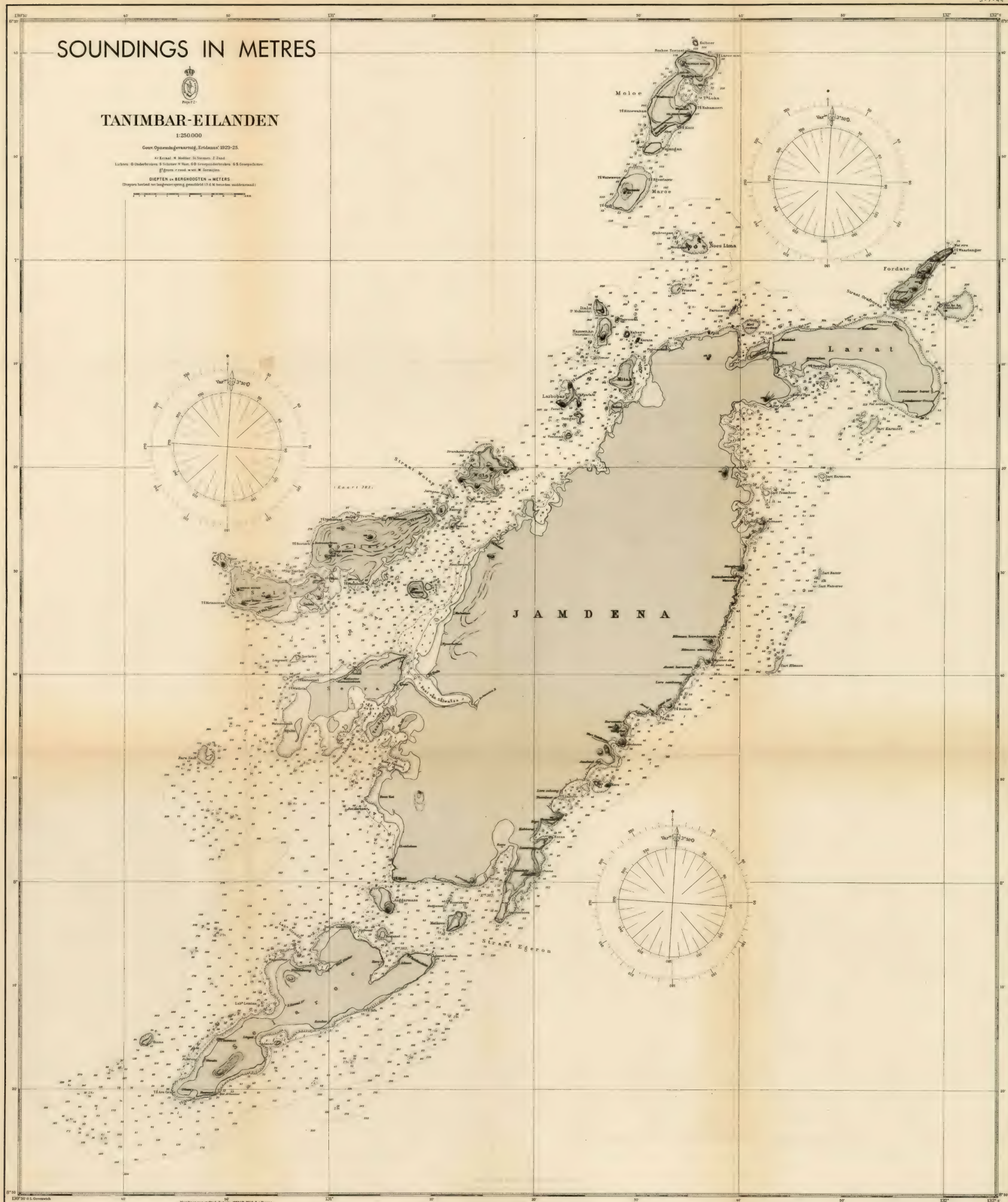
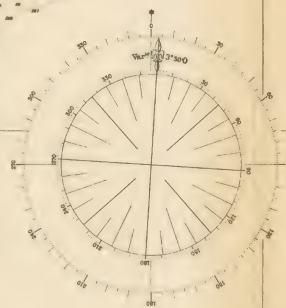
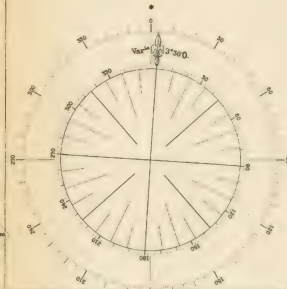
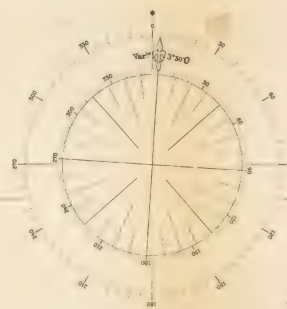
A. J. Krom, M. Molter, G. J. van der Vliet, J. van der Vliet

Lichten: G. Oudekerk, S. J. van der Vliet, G. J. van der Vliet, G. J. van der Vliet

D. J. van der Vliet, G. J. van der Vliet, G. J. van der Vliet, G. J. van der Vliet

DEPTEN en BEROOGTEN in METERS
(Diepten bereld van laagwater spring, gemiddeld 13 d. M. boven den middelenstand)

1:250 000



130°30'
6°37'

40'

50'

40'

SOUNDINGS IN A



Prijs: f. 2.-

TANIMBAR-EILAN

1:250.000

Gouv. Opnemingsvaartuig, Eridanus, 1923-25.

Kr. Koraal, M. Modder, St. Steenen, Z. Zand.

Lichten: O. Onderbroken, S. Schitter, V. Vast, G O. Groeponderbroken, G S. G.

gⁿ groen, r. rood, w. wit, M. Zeemijlen.

DIEPTEN EN BERGHOOGTEN IN METERS.

(Diepten herleid tot laagwaterspring, gemiddeld 13 d.M. beneden midde

50'

2 1 0 2 4 6 8 10 12 14 16

7°

131°

10'

METRES

DEN

roepschitter,

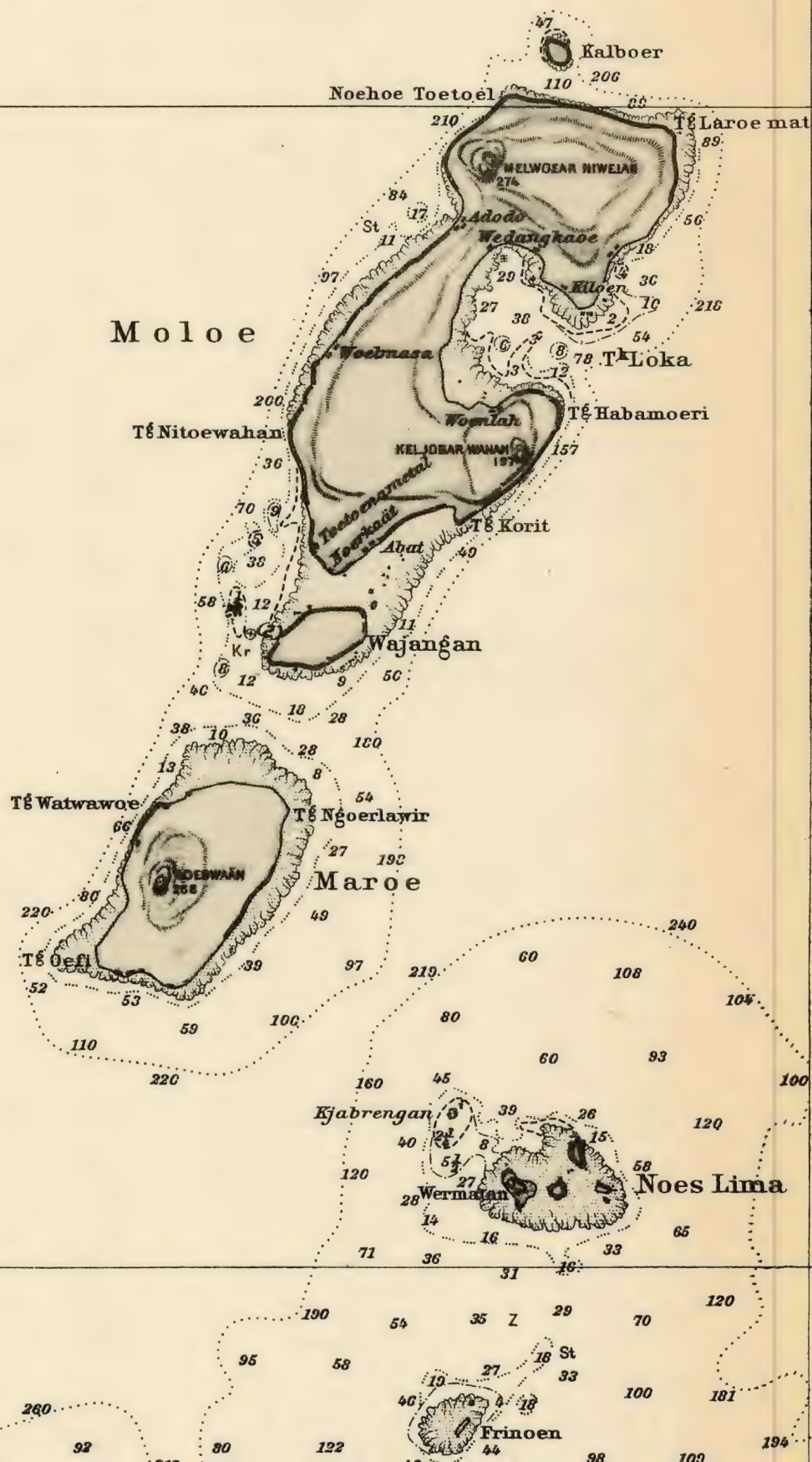
enstand.)

18 K.M.

20'

30'

40'



50'

132°

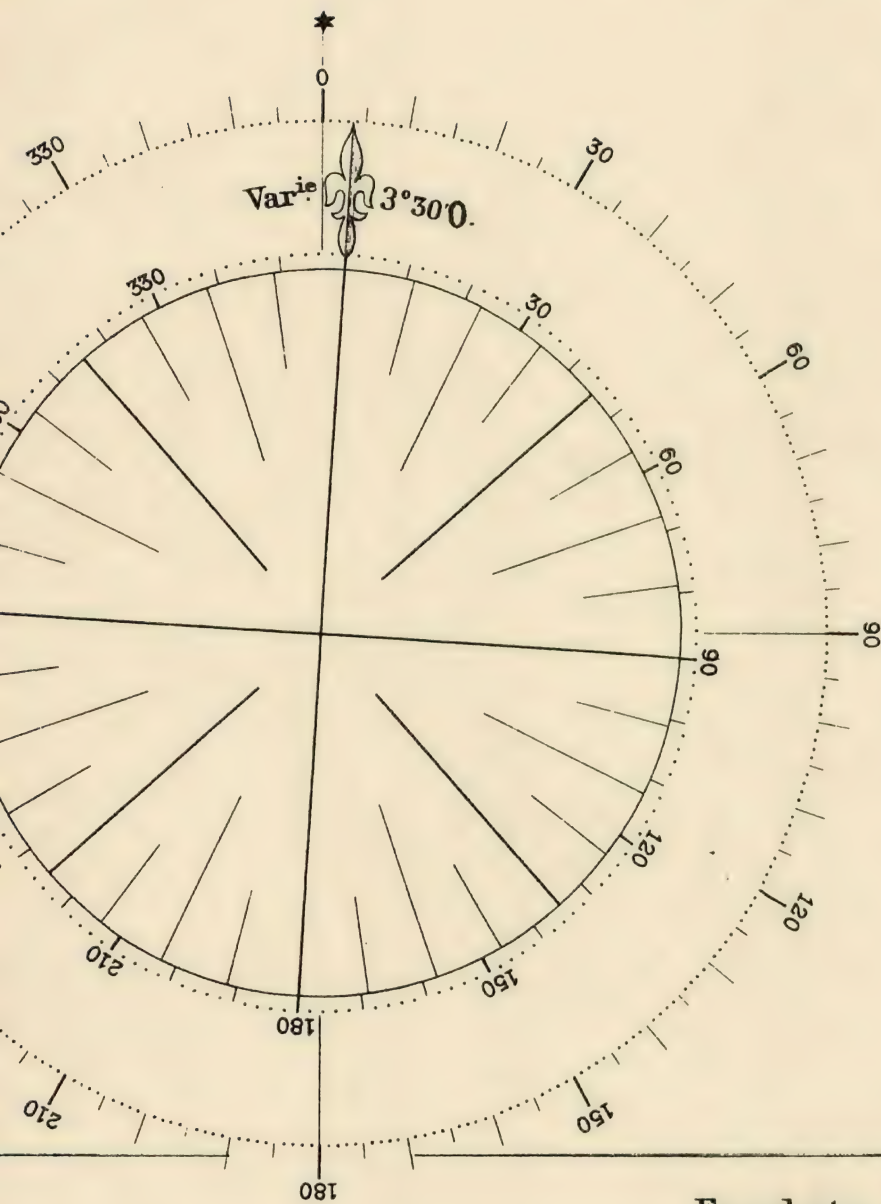
132° 5'

6° 37'

40'

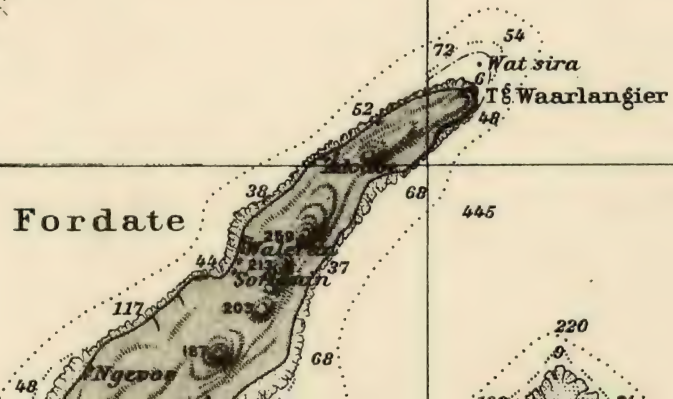
50'

7°



Fordate

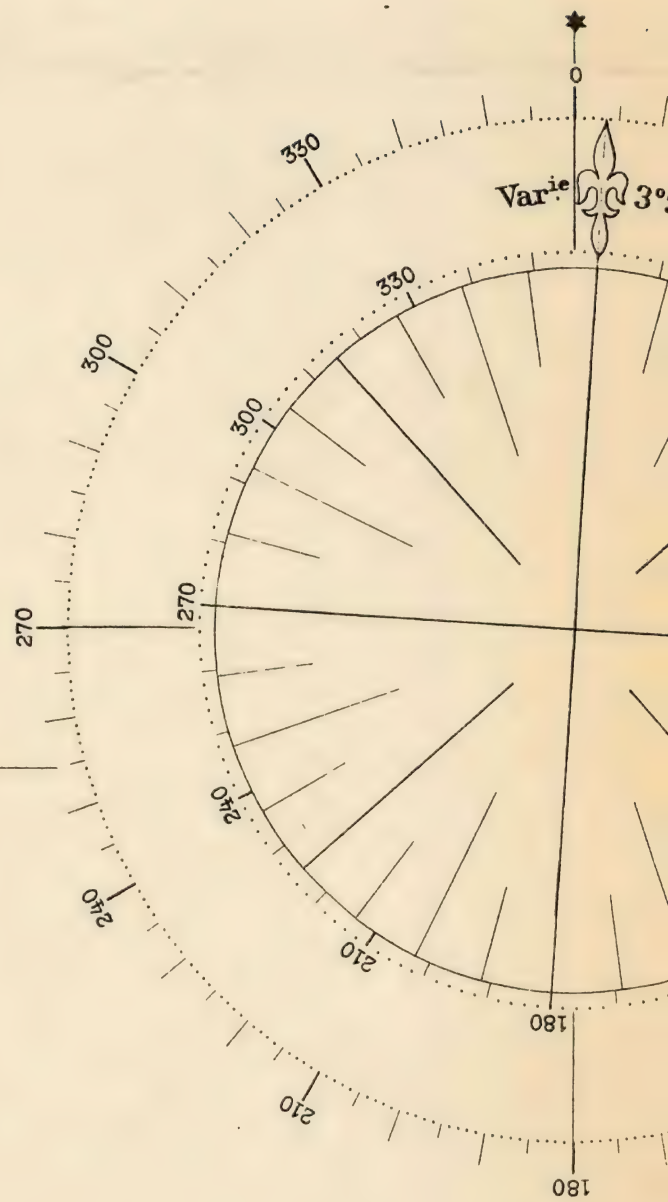
Straat

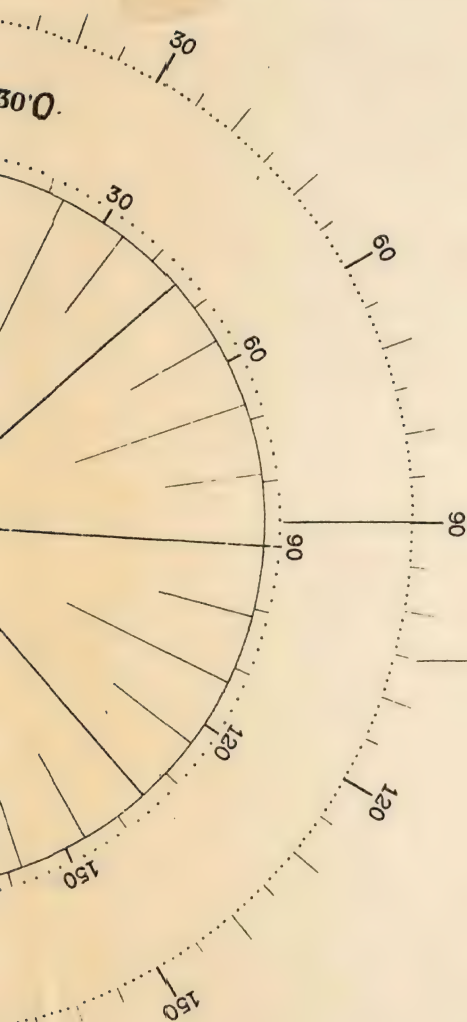


10'

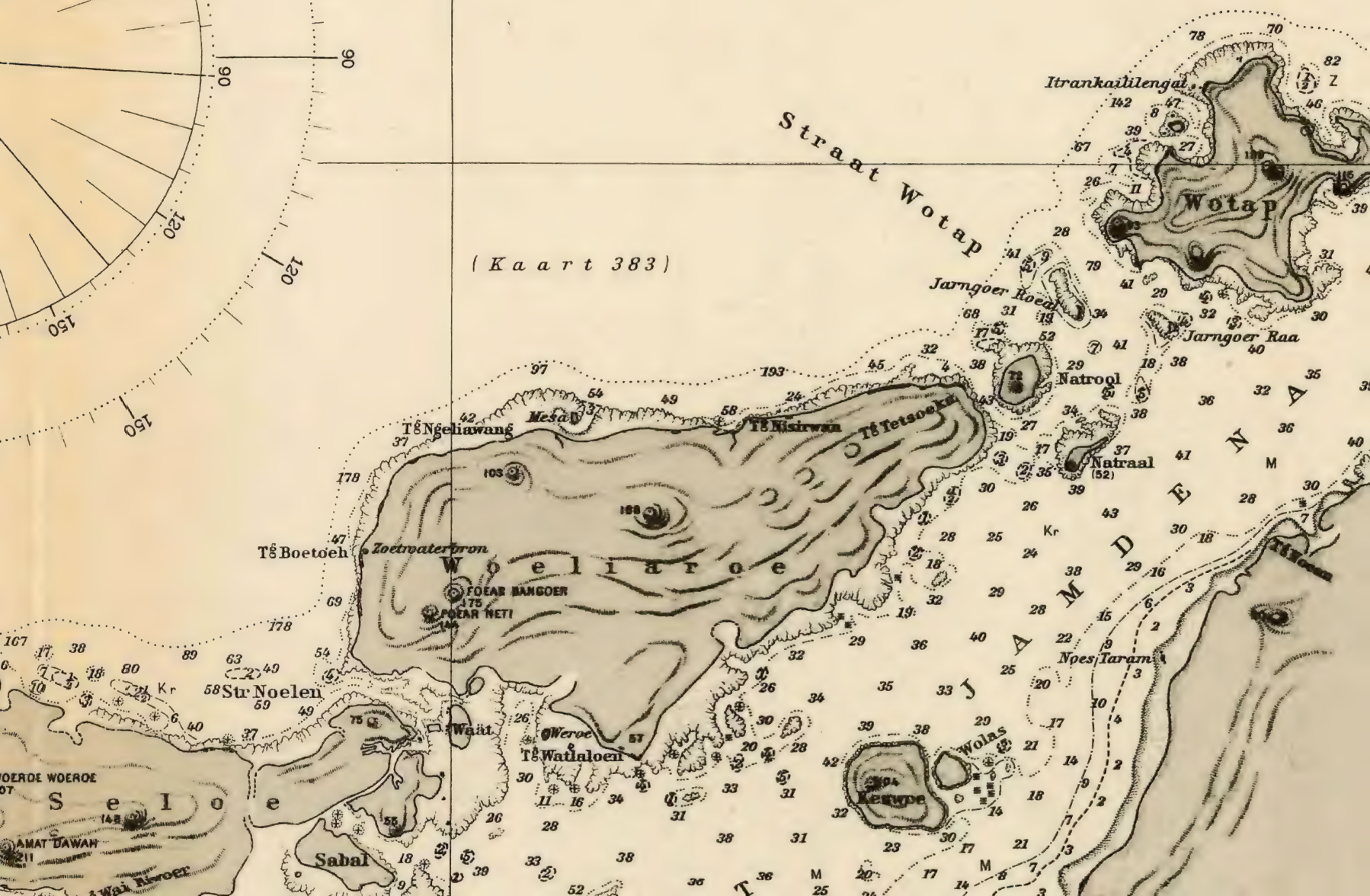
20'

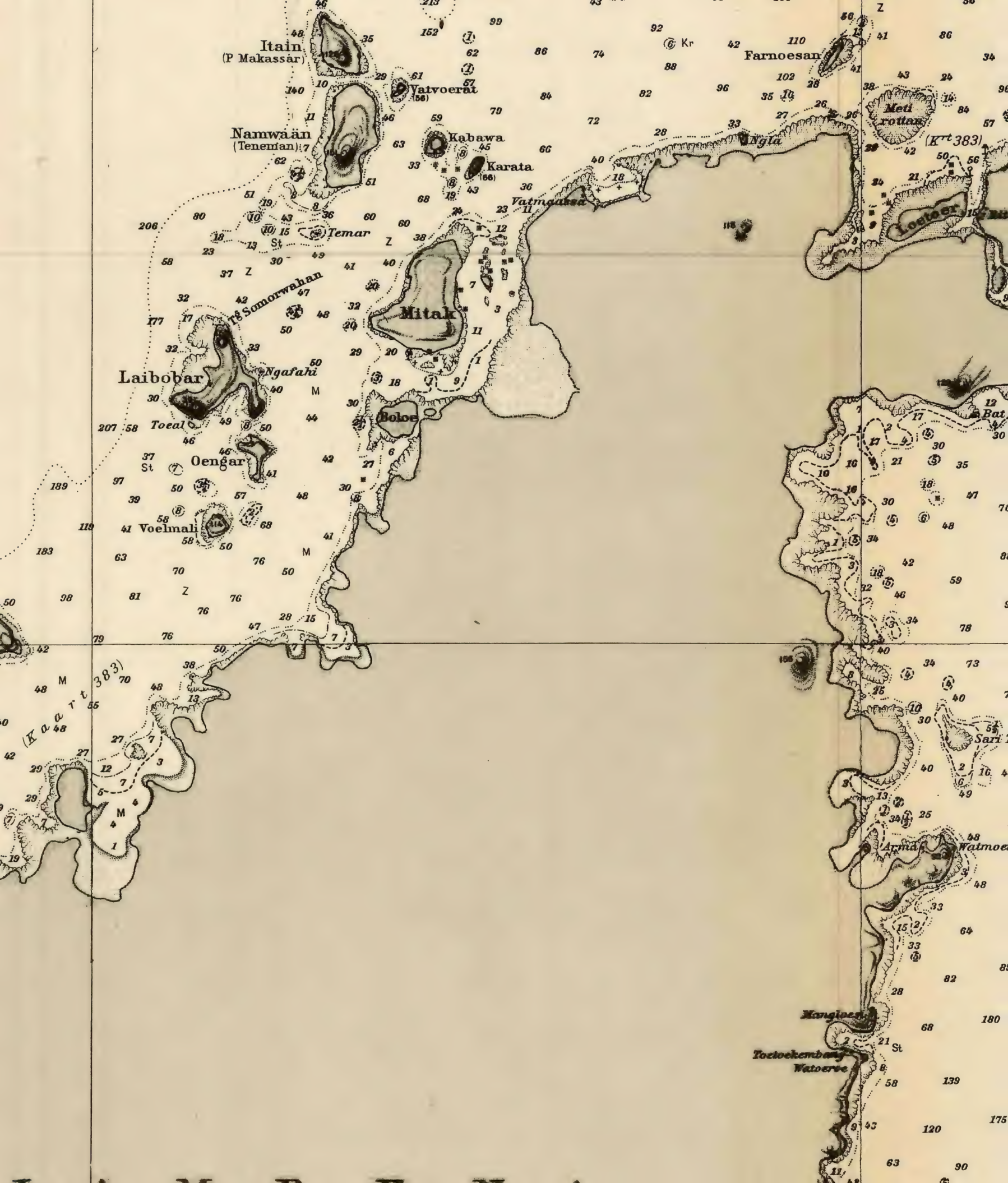
30'

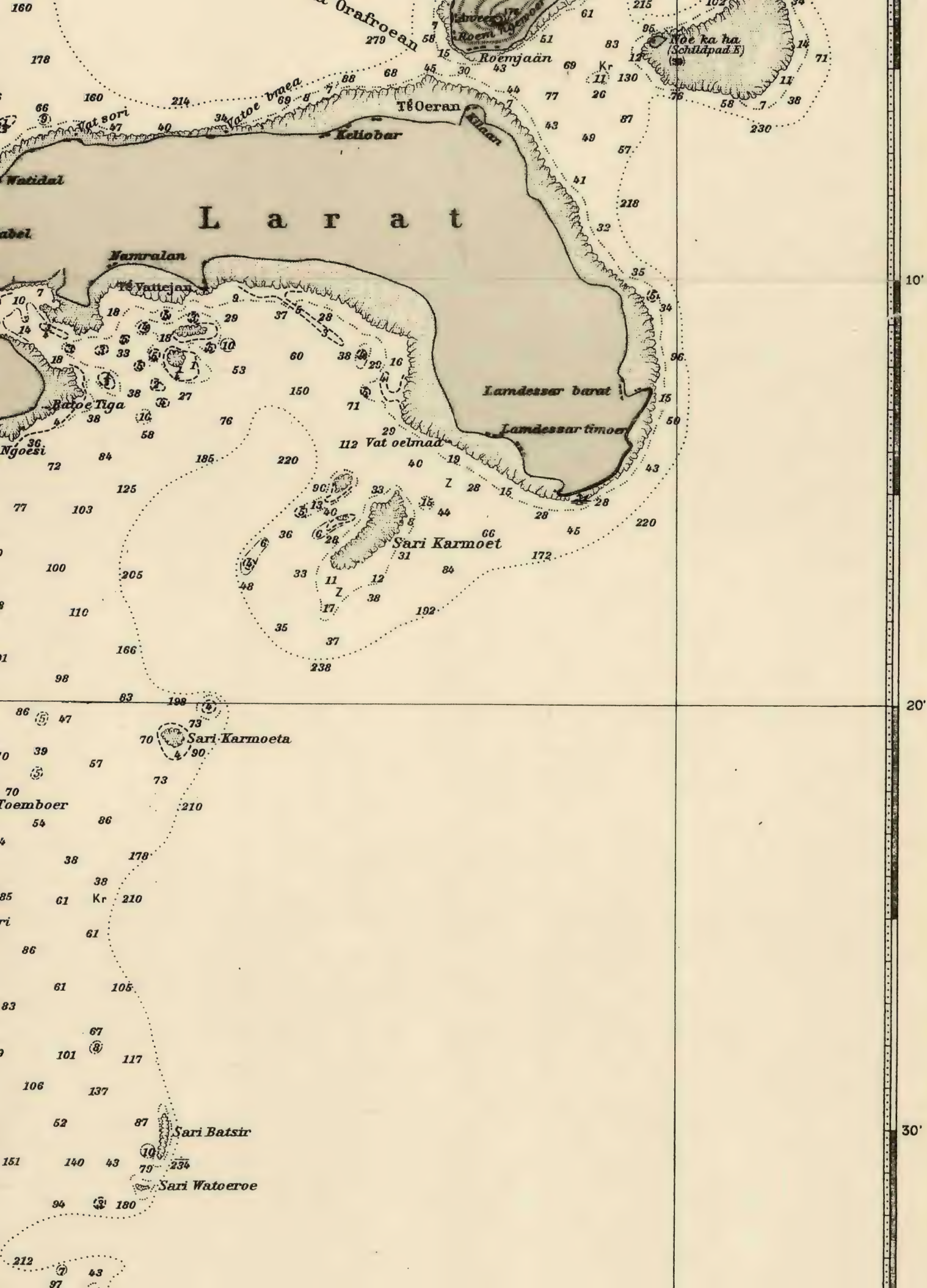


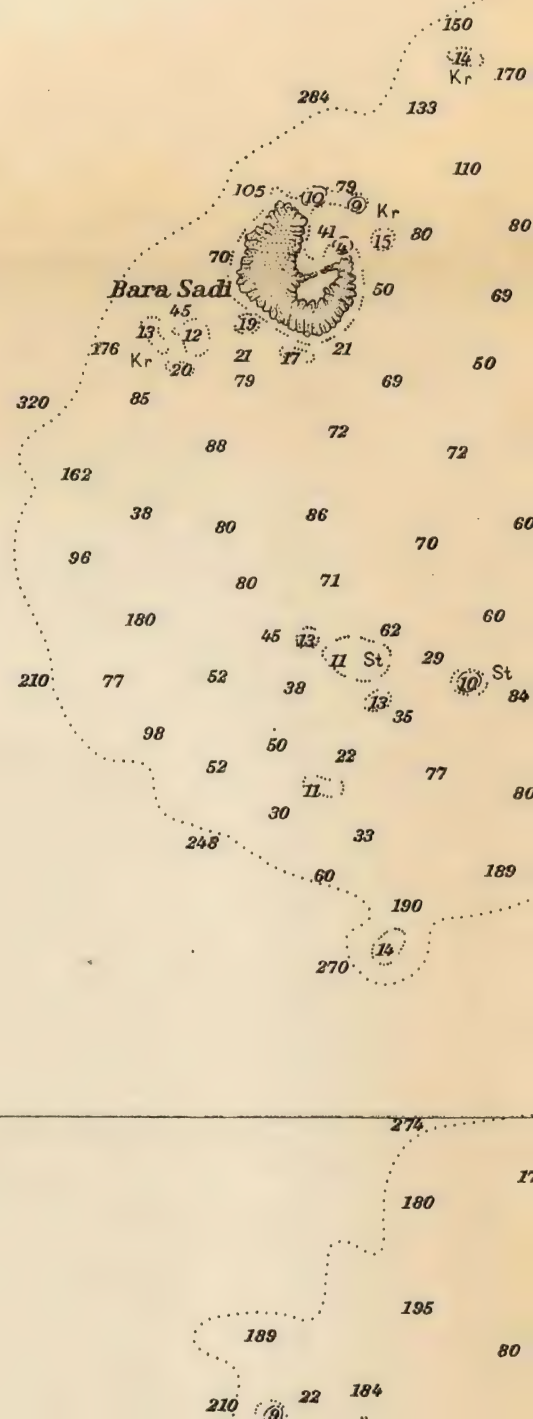


(K a a r t 383)



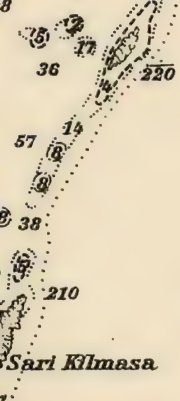








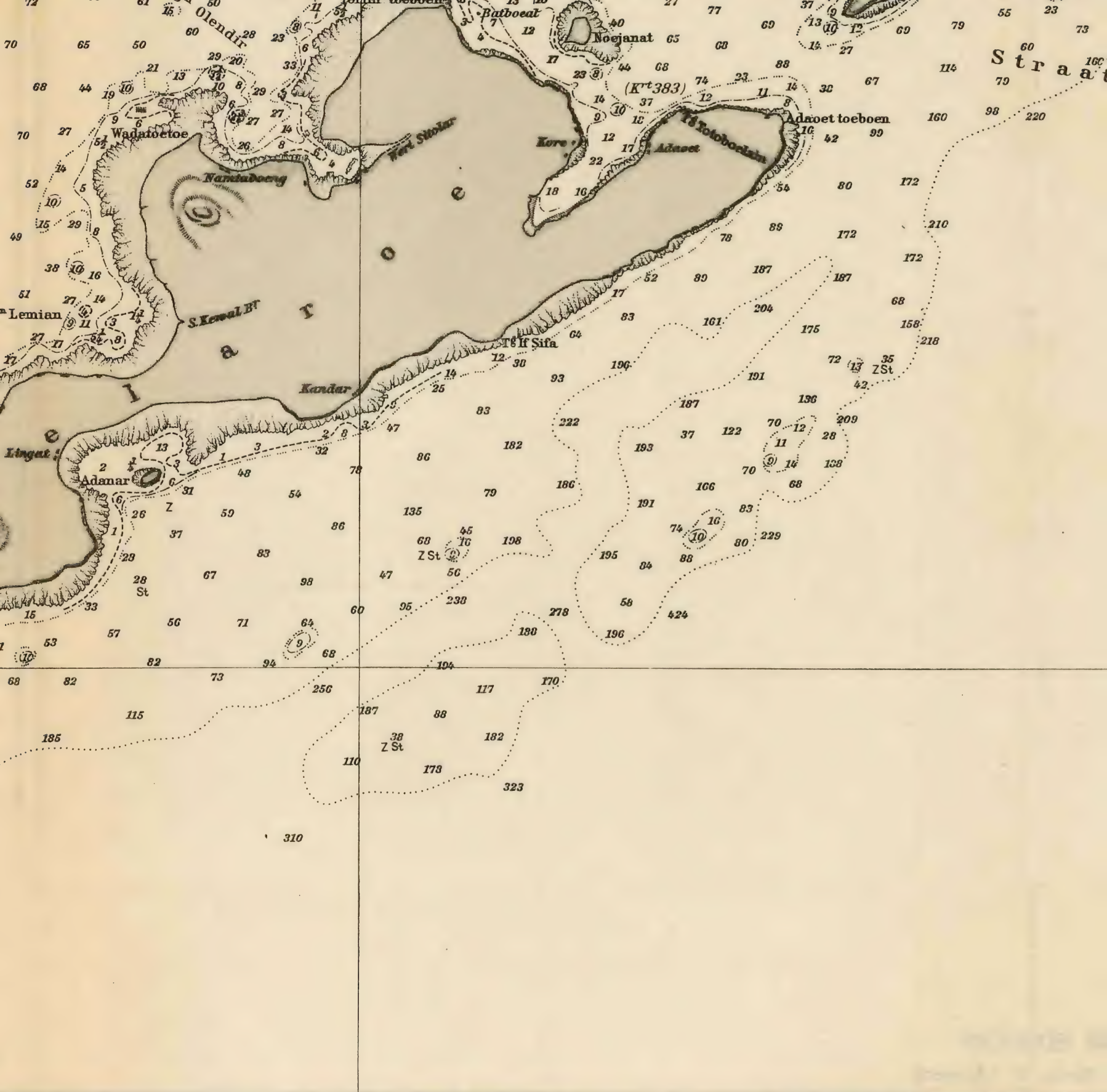




40'

50'

8°

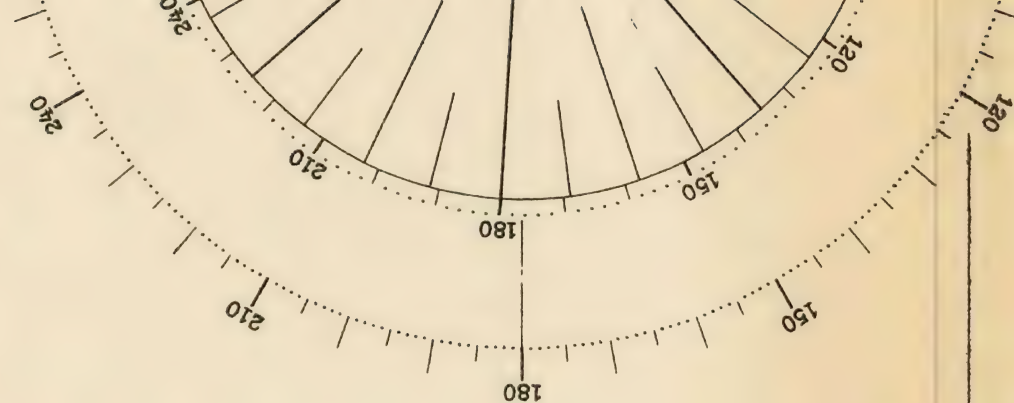


131° 10'

8' 27" 8 0. (Nieuw)

's-Gravenhage. Uitgegeven in Maart 1927 door het
Verkrijgbaar bij de Gebroed

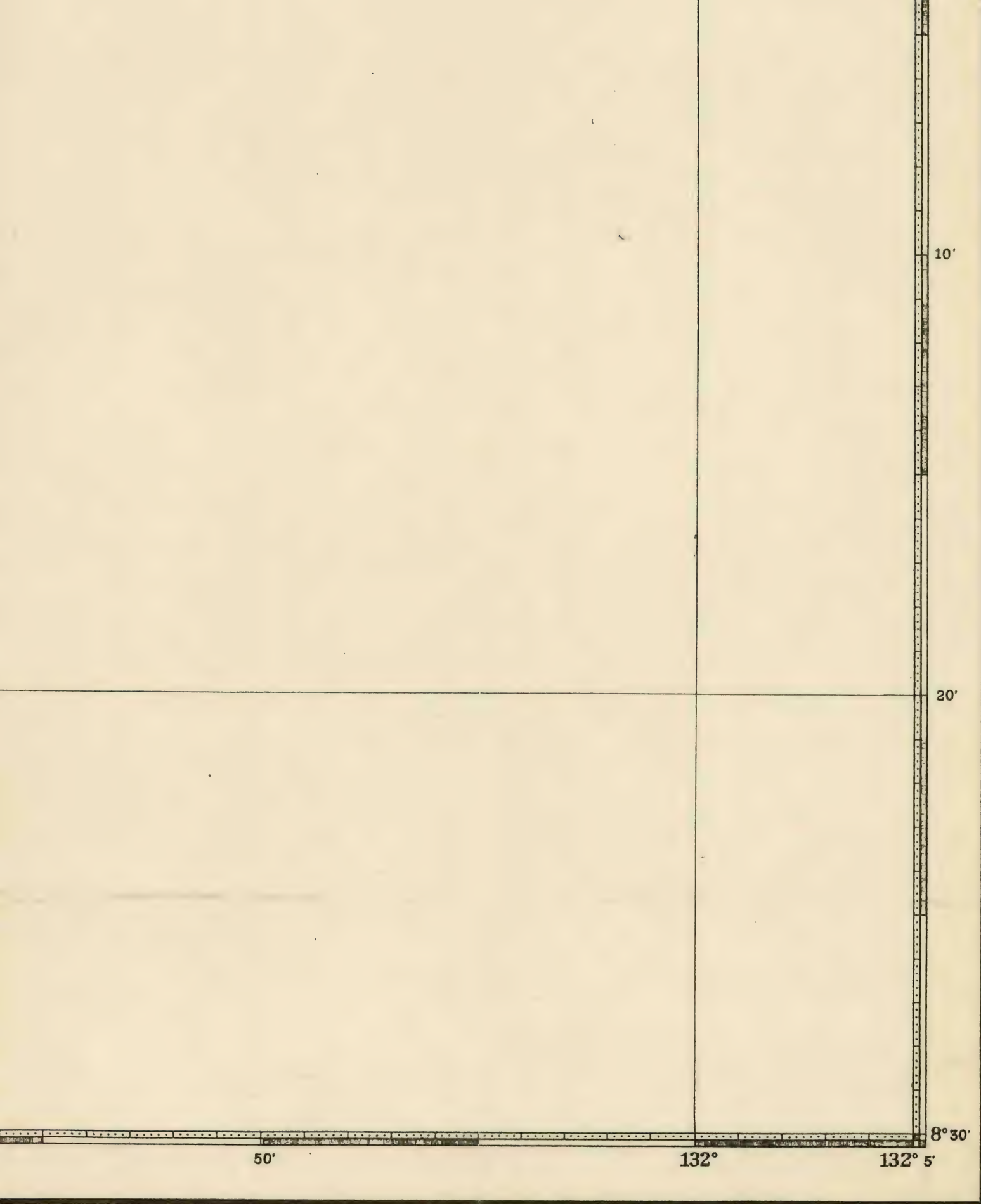
102
E g e r o n



20'

30'

40'



, Sydney, 23rd October, 1942.

No. (*Dutch Catalogue*) 382

MAP 7



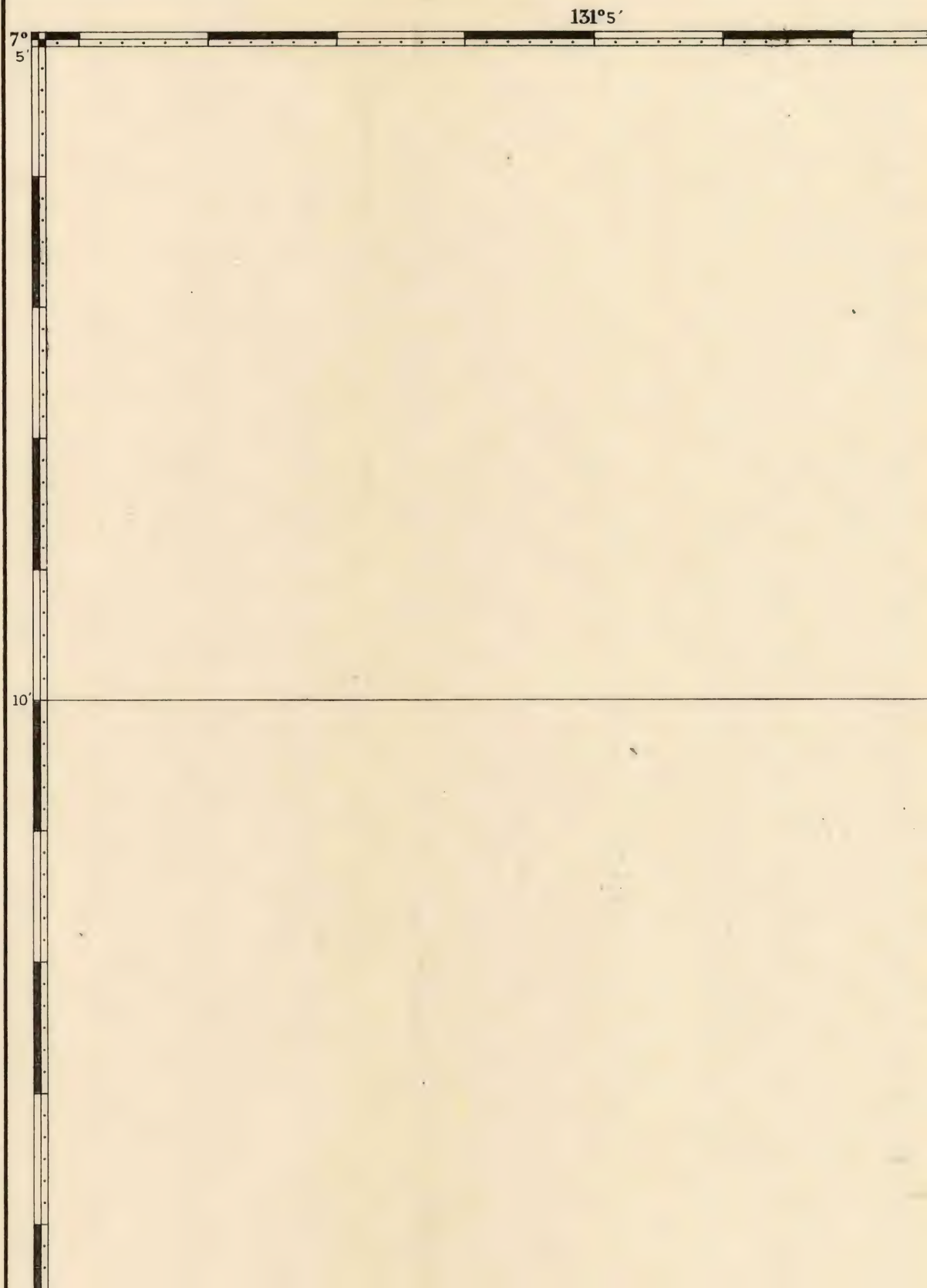
For English Translation see Chart No. 1 (Dutch Catalogue).

K.Klei; Kr.Koraal; M.Modder; S.Schelpen; St.Steenen; Z.Zand.



VAARWATERS EN ANKERPLAATSEN

Gouv. Opnemingsvaartui



N NABIJ DE TANIMBAR - EILANDEN

g „Eridanus”, 1923-25.

10'

15'

SOUNDINGS IN METR

HEIGHTS AND SOUNDINGS IN METRES

DIEPTEN EN BERGHOOGTEN IN METERS.

(Diepten herleid tot laagwaterspring, gemiddeld 13 d.M. beneden middenstand.)

3-7-44.



Prijs: f. 2,25

ES





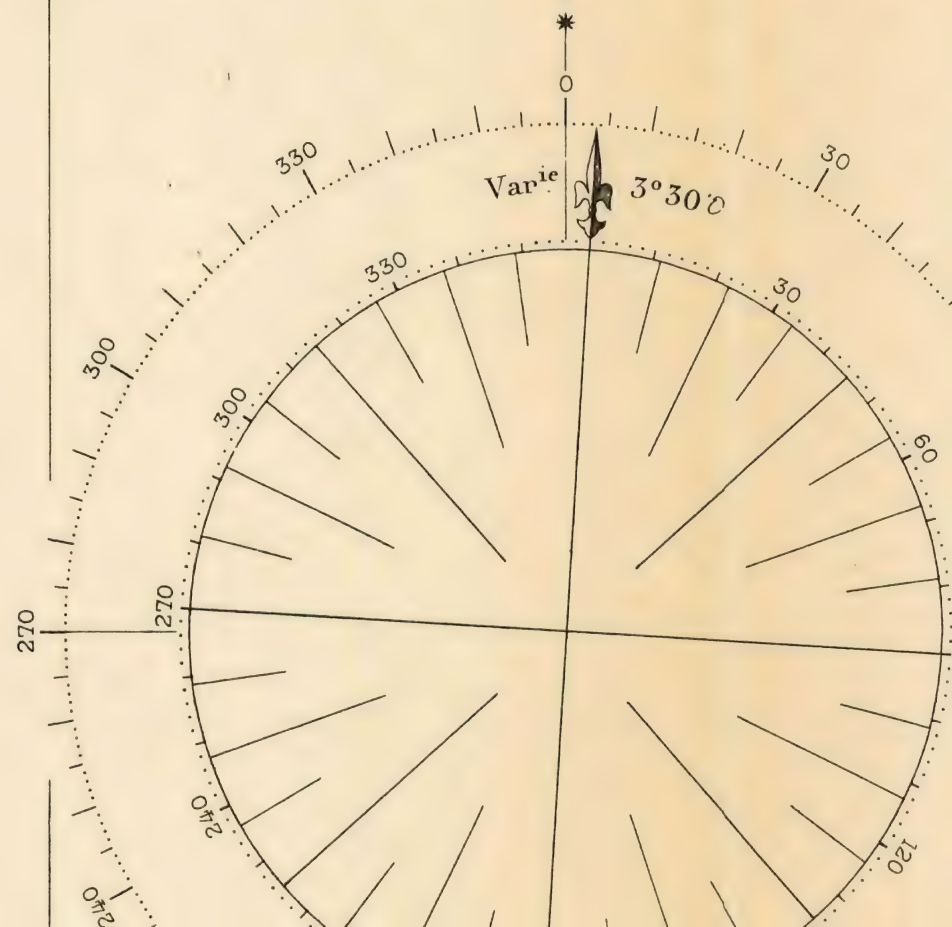
130°45'

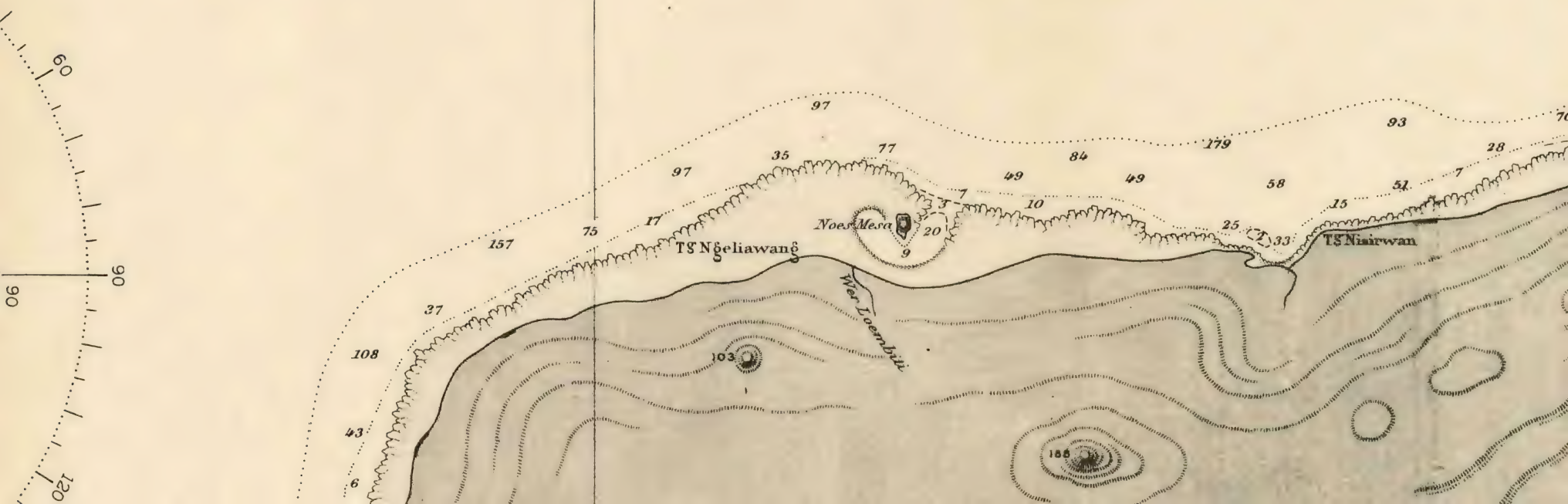
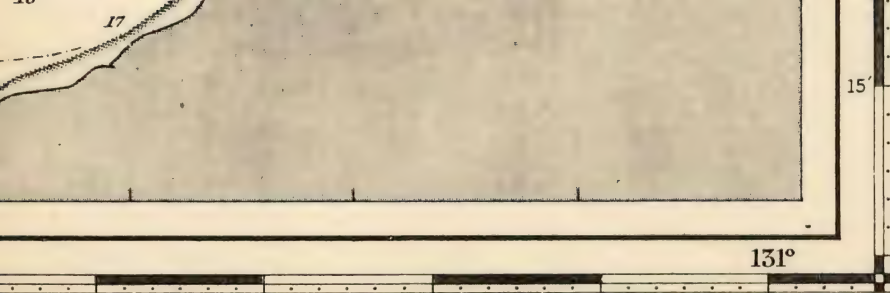
50'

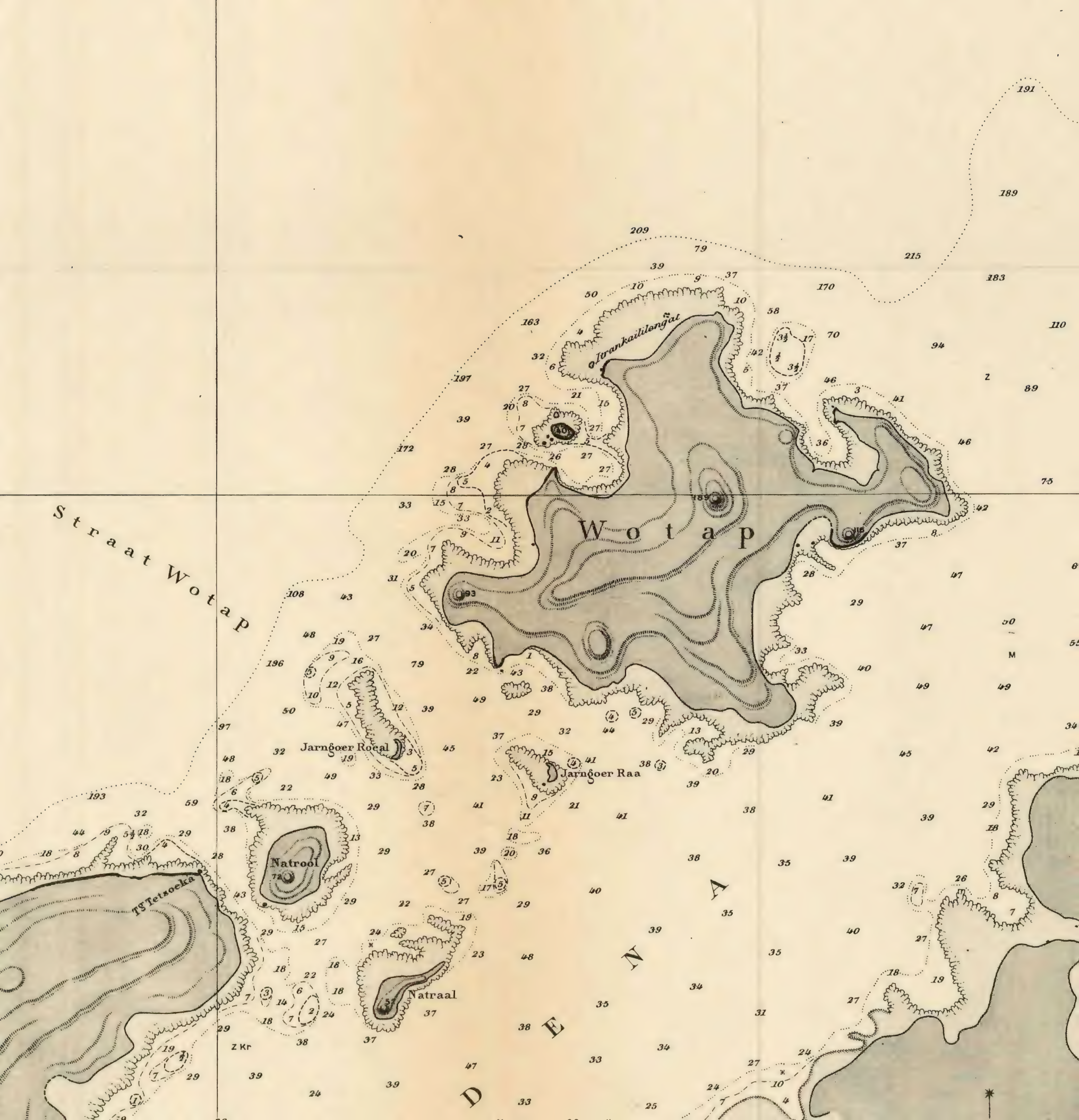
55'

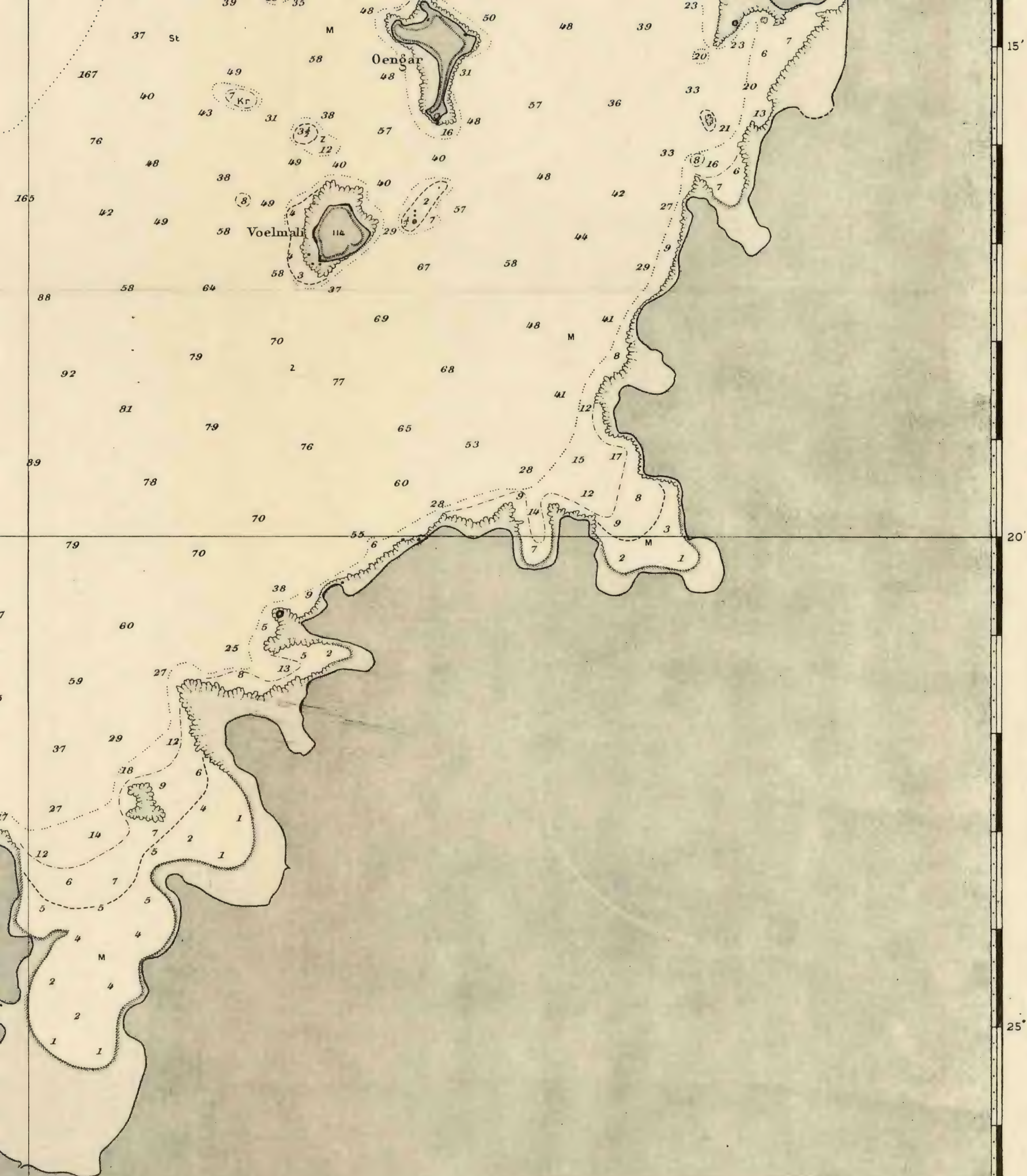
20'

25'









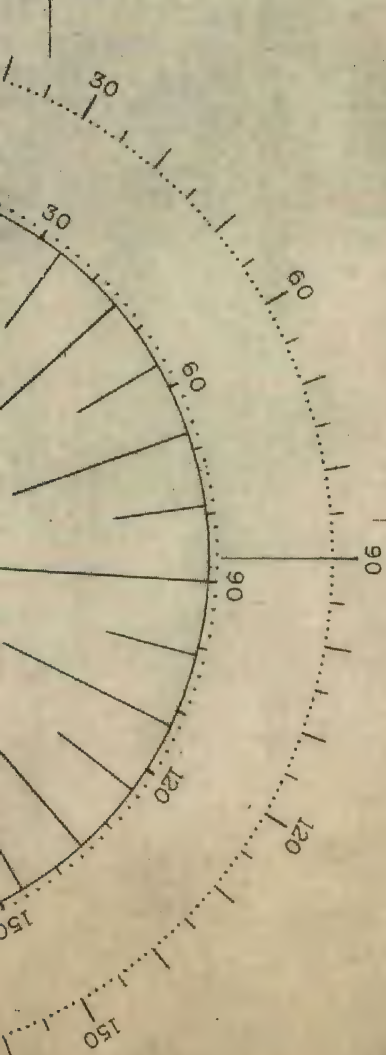
30°

35°



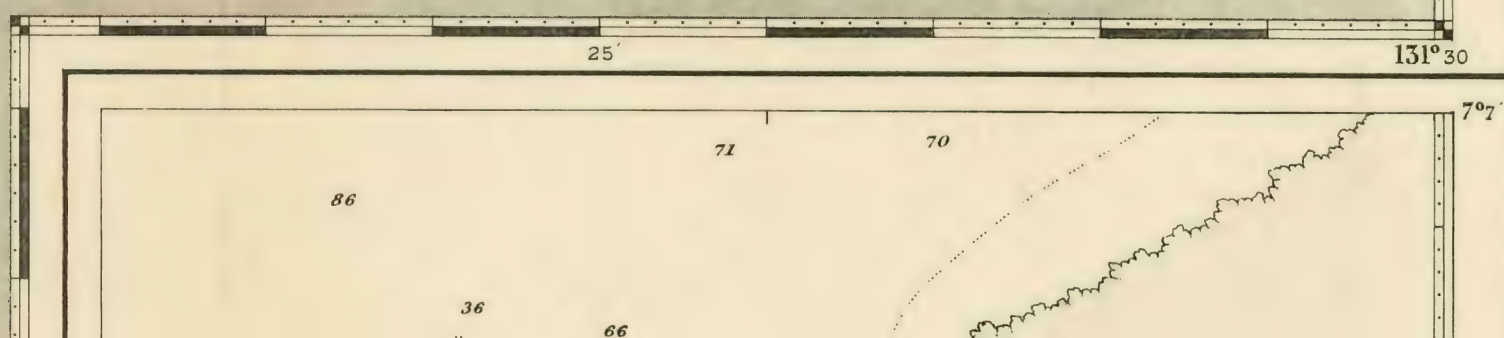


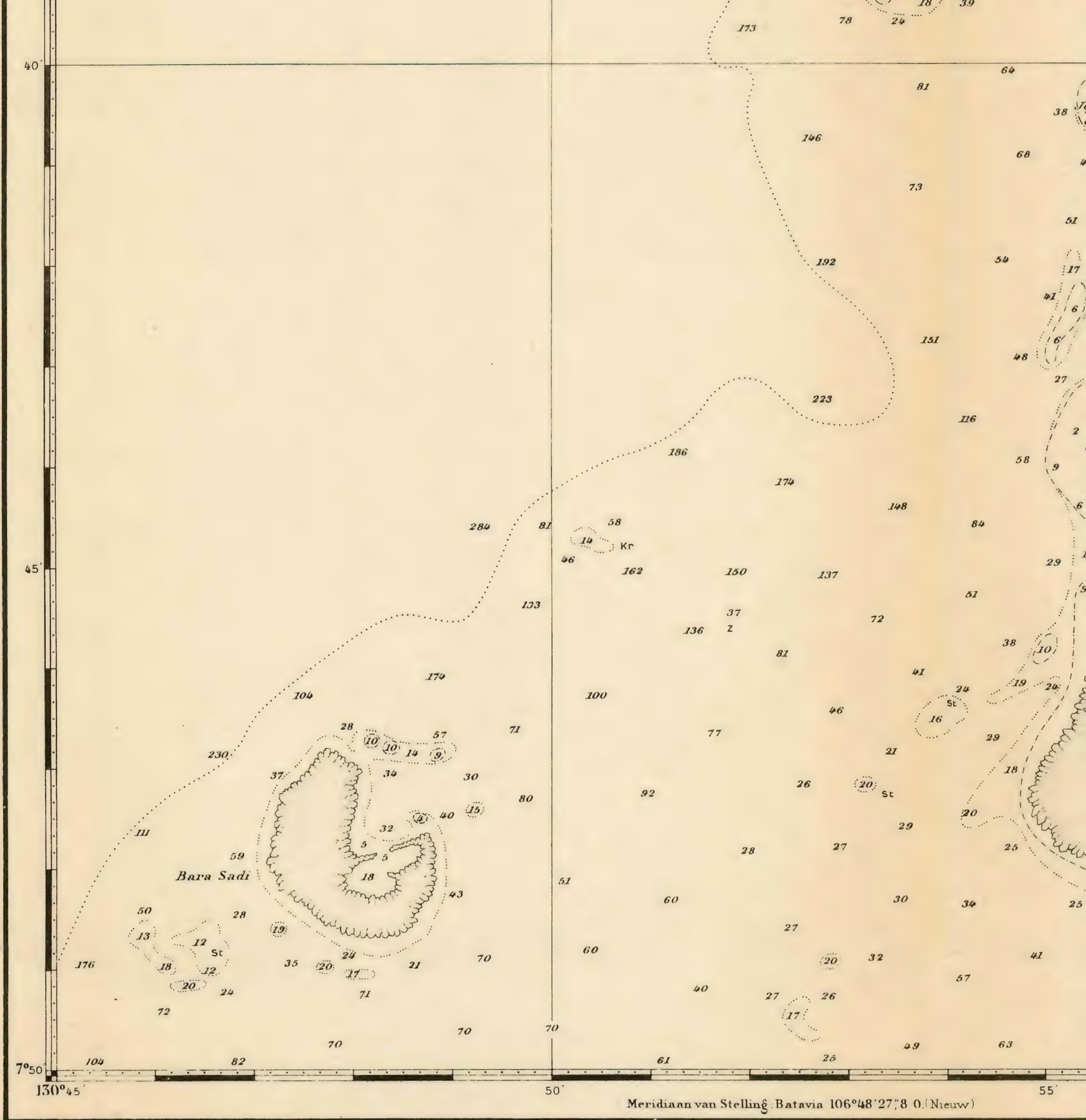




| Conversion Table for | | | | | |
|-------------------------|----------------|--------------|-----------------|--------------|----|
| Metre Fathom | | Metre Fathom | | Metre Fathom | |
| 1 | 0 ₃ | 11 | 6 | 25 | 14 |
| 2 | 1 | 12 | 6 ₃ | 30 | 16 |
| 3 | 1 ₄ | 13 | 7 ₁ | 35 | 19 |
| 4 | 2 ₁ | 14 | 7 ₄ | 40 | 22 |
| 5 | 2 ₄ | 15 | 8 ₁ | 50 | 27 |
| 6 | 3 ₂ | 16 | 8 ₅ | 60 | 33 |
| 7 | 3 ₅ | 17 | 9 ₂ | 70 | 38 |
| 8 | 4 ₂ | 18 | 9 ₅ | 80 | 43 |
| 9 | 4 ₅ | 19 | 10 ₂ | 90 | 49 |
| 10 | 5 ₃ | 20 | 11 | 100 | 54 |

M D E N A

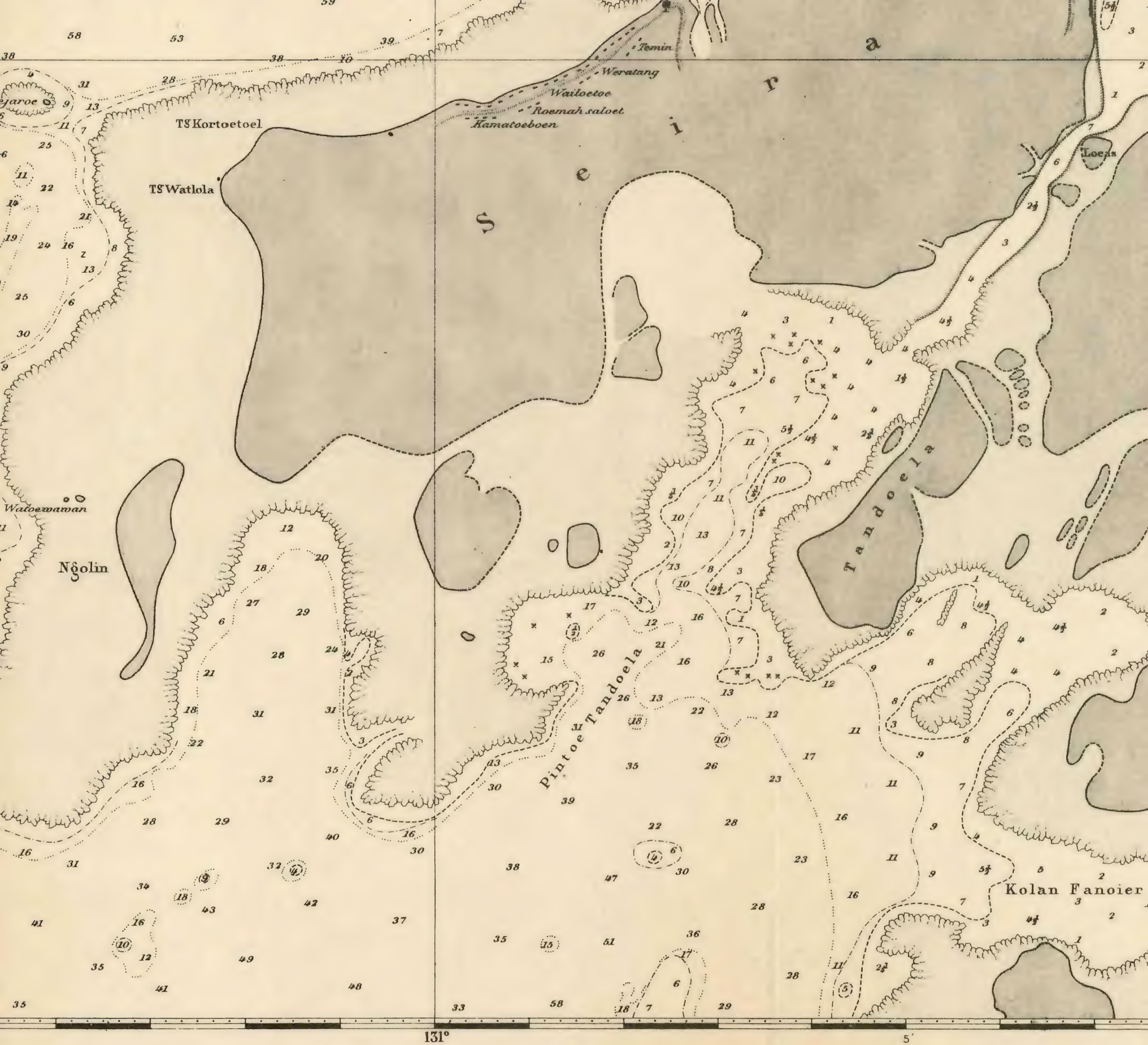




Bylgewerkl ⅞m B a. Z N° 257, 1939
III-1930,

42-41.

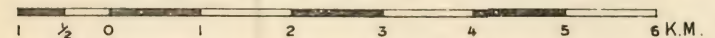
.. Bot D-part. Nov. 17/1940.

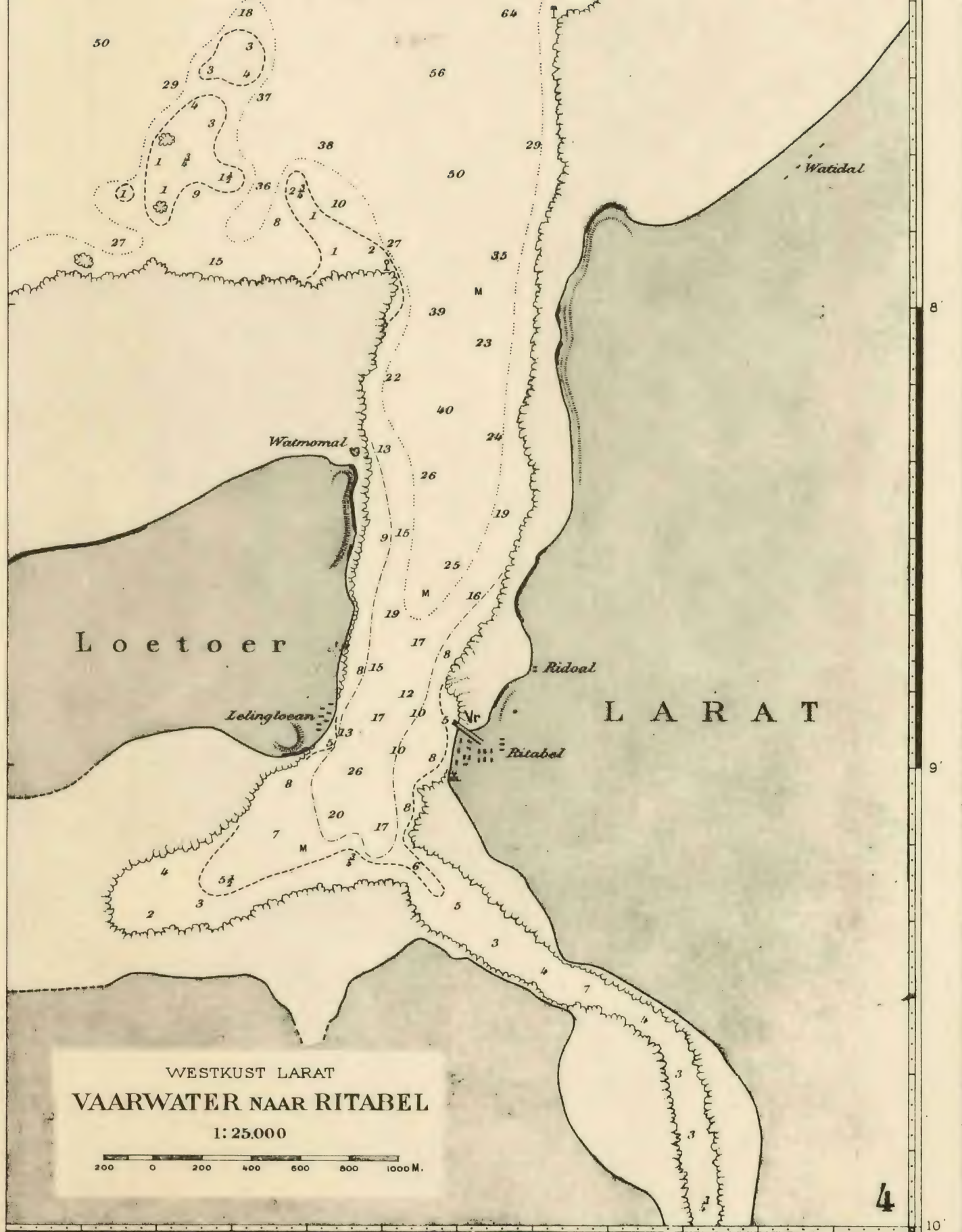




WESTKUST JAMDENA
STRAAT JAMDENA

1:100,000



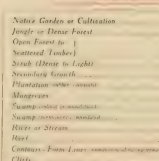
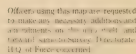
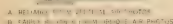


No. (Dutch Catalogue) 383

MAP 8

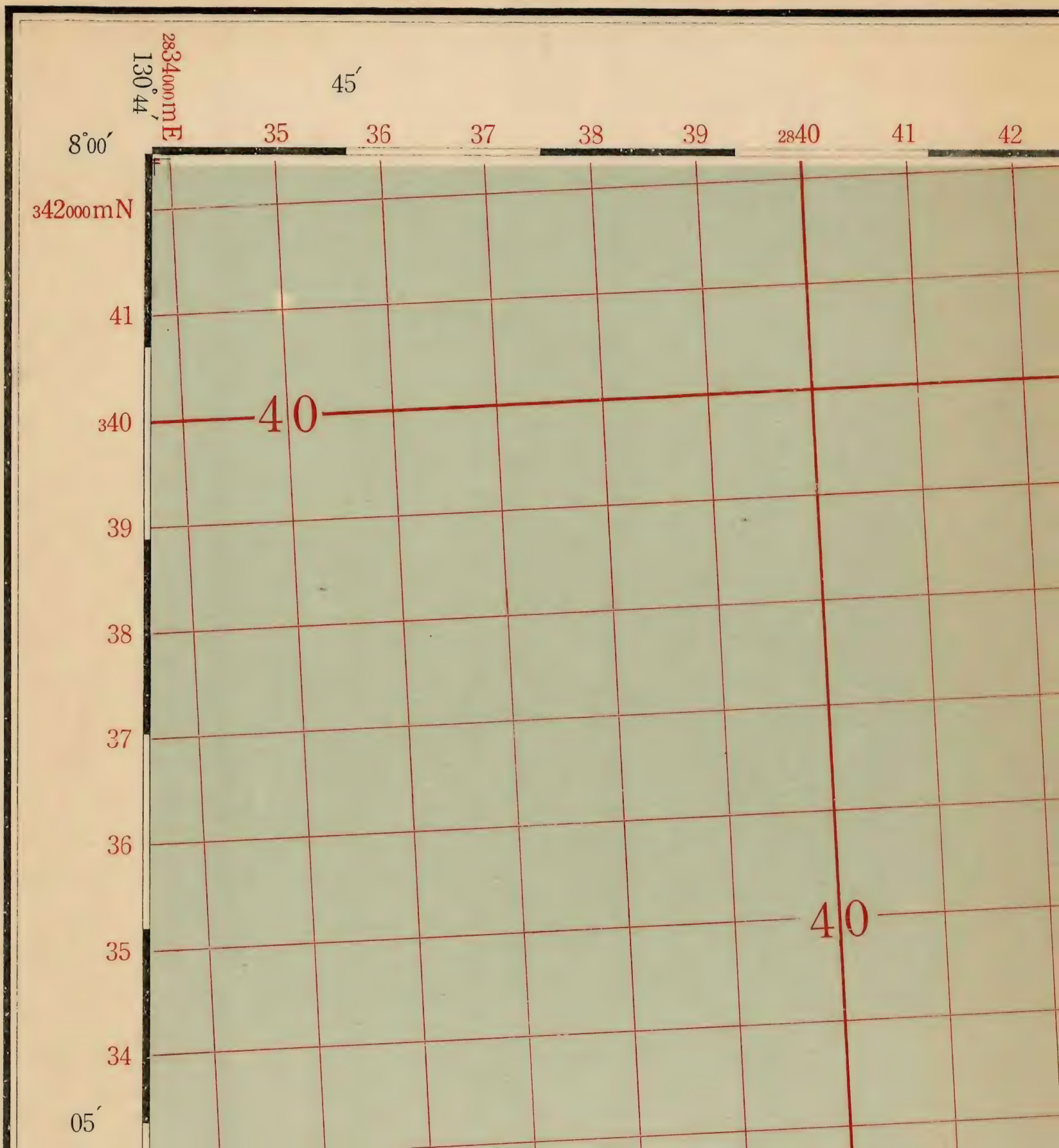


| | |
|--|---|
| <i>Motor Road and Heidge</i> | — |
| <i>Jeep Track</i> | — |
| <i>Foot Track</i> | — |
| <i>Reported Track</i> | — |
| <i>Telegraph Line</i> | — |
| <i>Apfield</i> | — |
| <i>Sea Plane Base</i> | — |
| <i>Astronomical Station</i> | — |
| <i>Trig Station</i> (First Order) | — |
| <i>Trig Station</i> (Second Order) | — |
| <i>Trig Station</i> (Third Order) | — |
| <i>Trig Station</i> (Fourth Order) | — |
| <i>Spot Height</i> | — |
| <i>Native Village (small or large)</i> | — |
| <i>Building</i> | — |
| <i>Church or Mosque</i> | — |

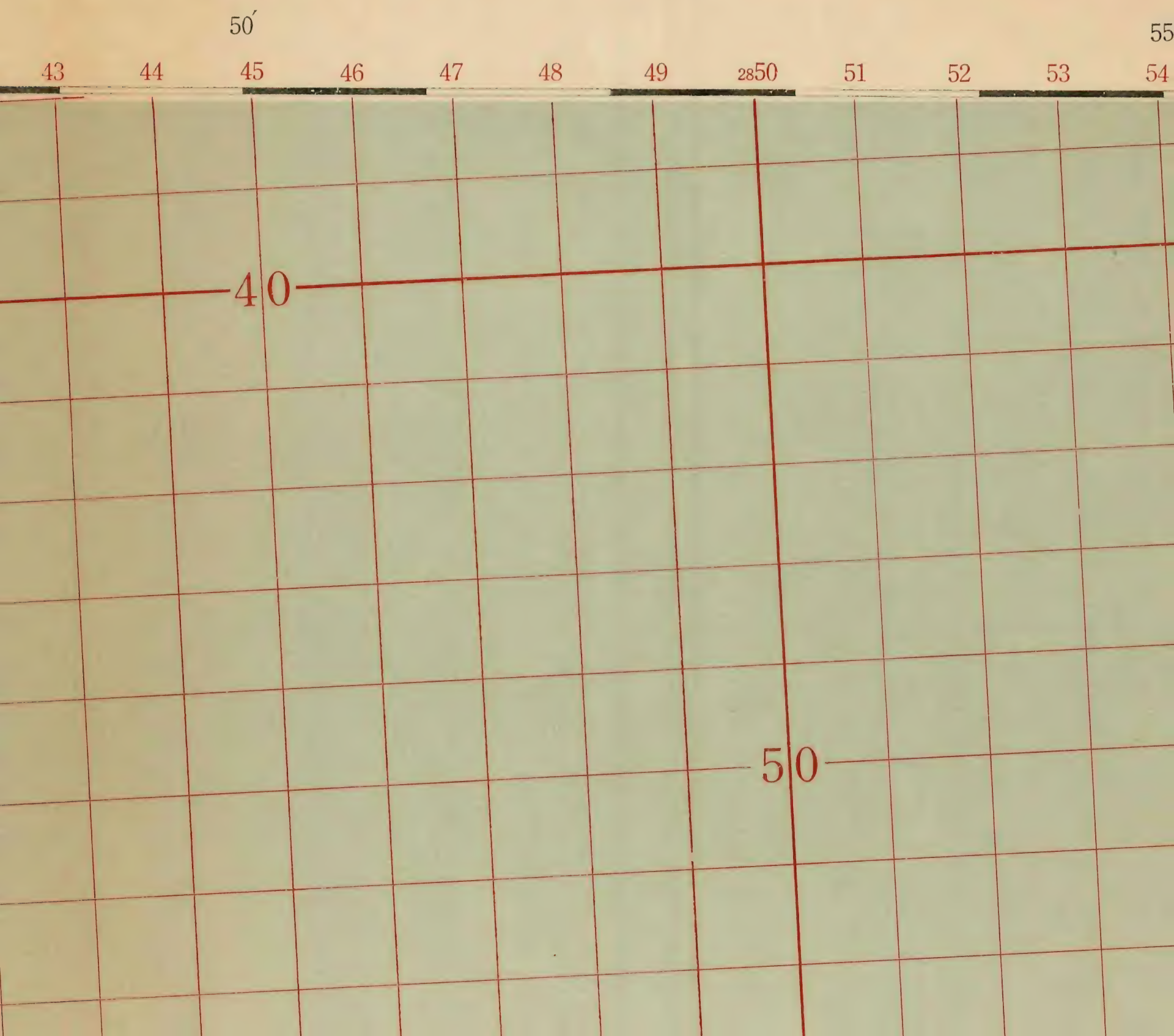


1 : 63,360

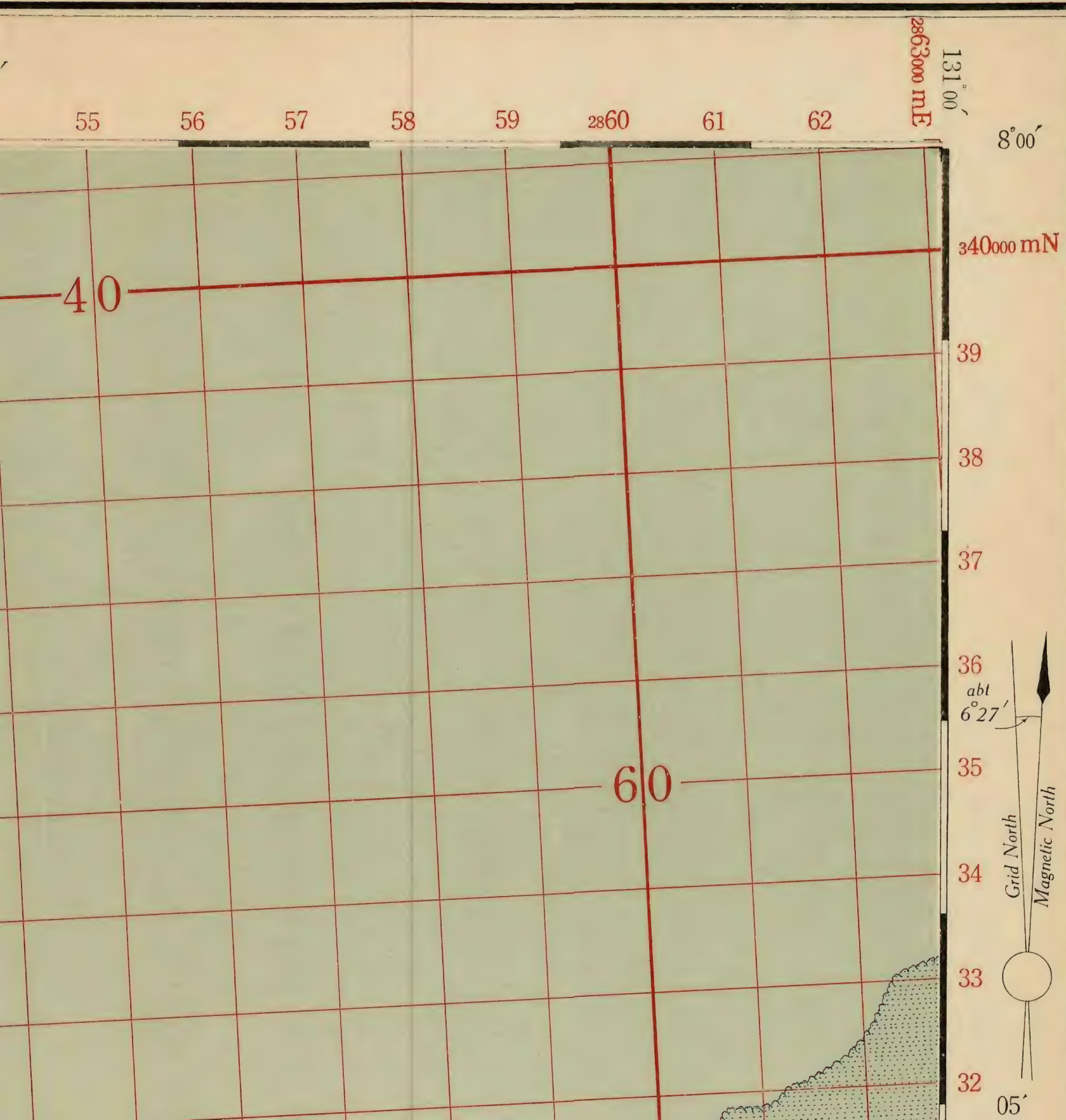
NETHERLANDS EAST INDIES GRID
SOUTHERN ZONE

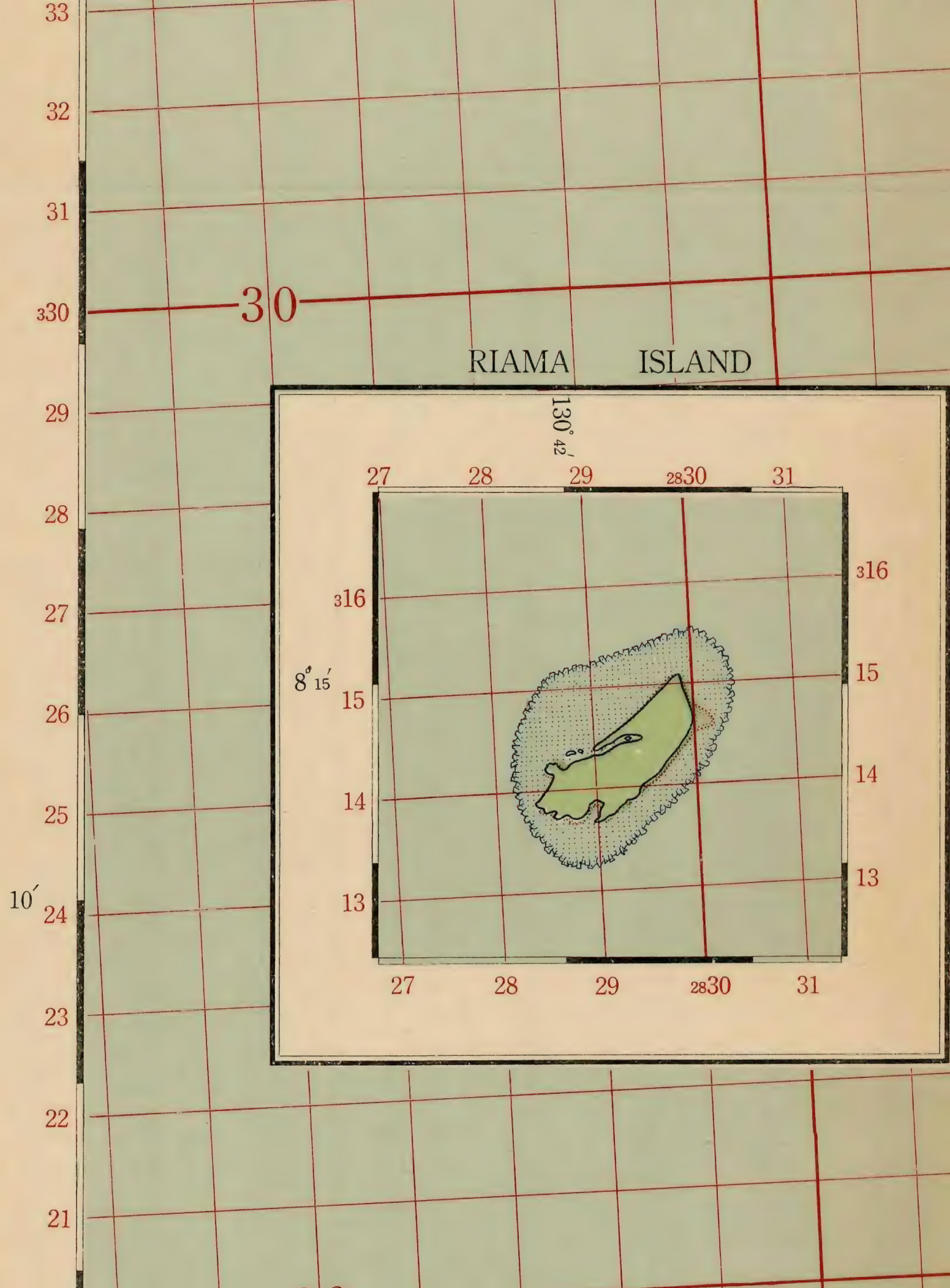


TANIMBAR ISLANDS
SELAROE ISLAND WEST



REFER TO THIS MAP AS :
N^o. 0438 SELAROE ISLAND WEST 1 INCH SERIES



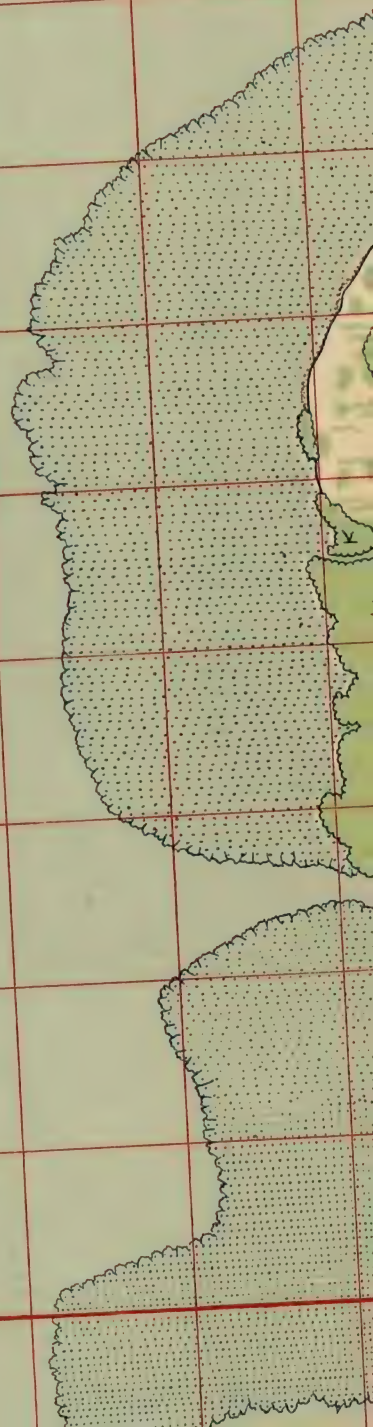


30

SEA

50

20

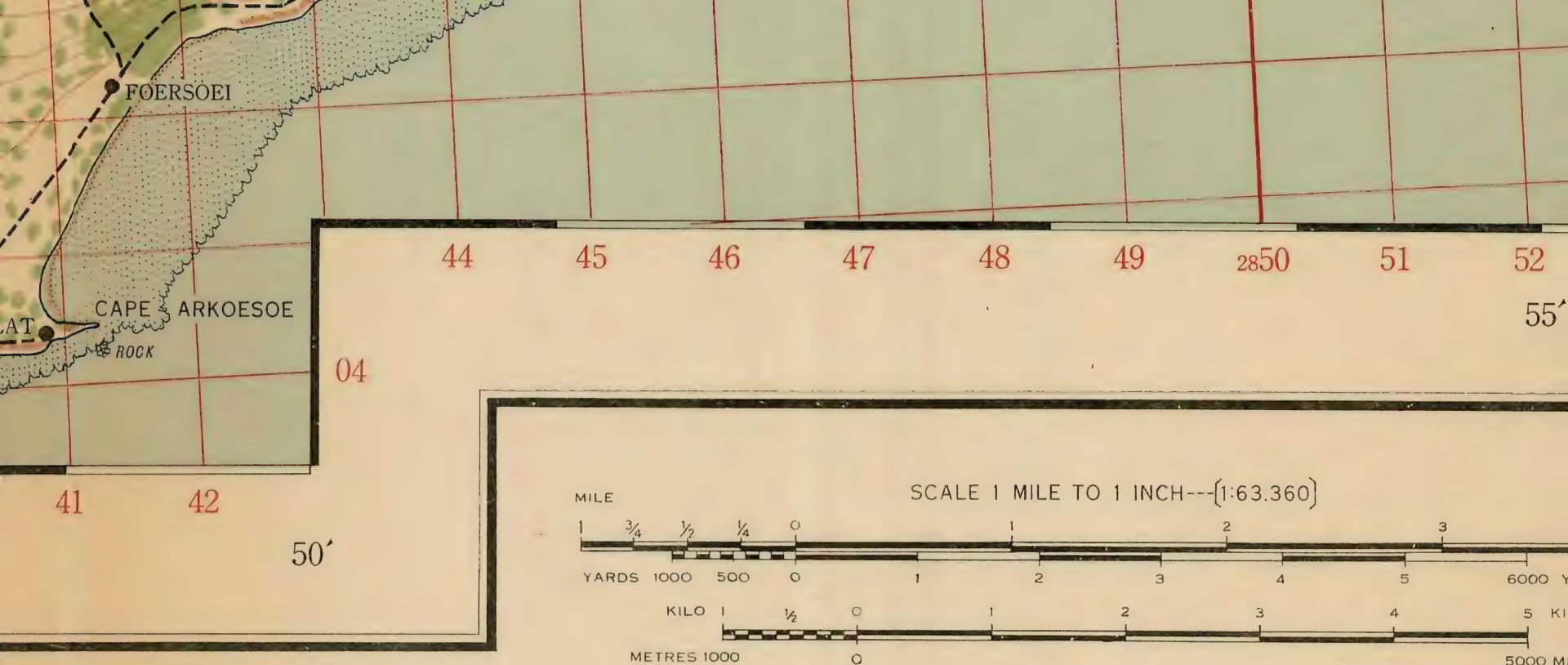






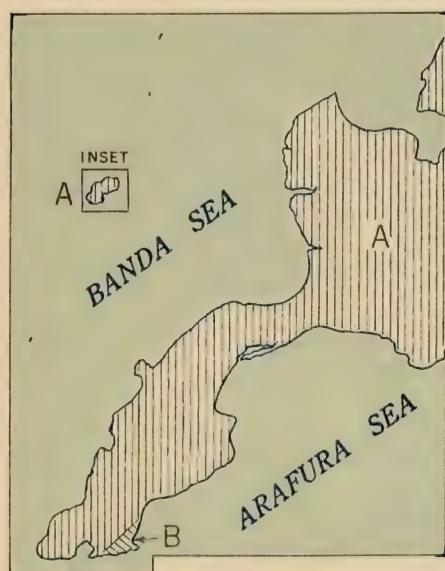
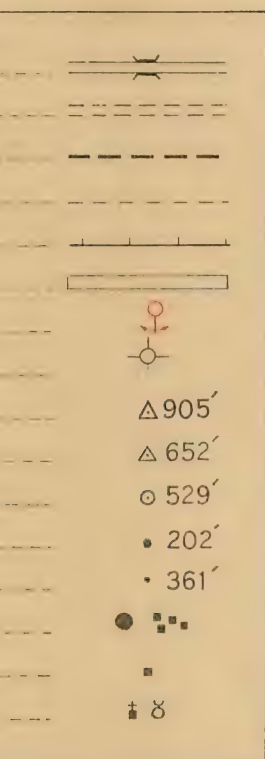




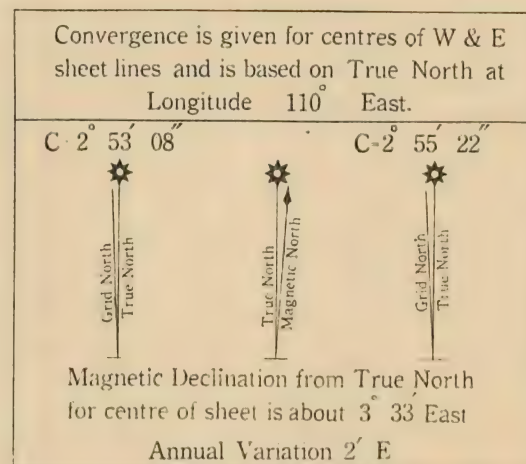


WARNING: FORM LINES ONLY, NOT CONTOURS
(INTERVAL APPROXIMATELY 50 FEET)

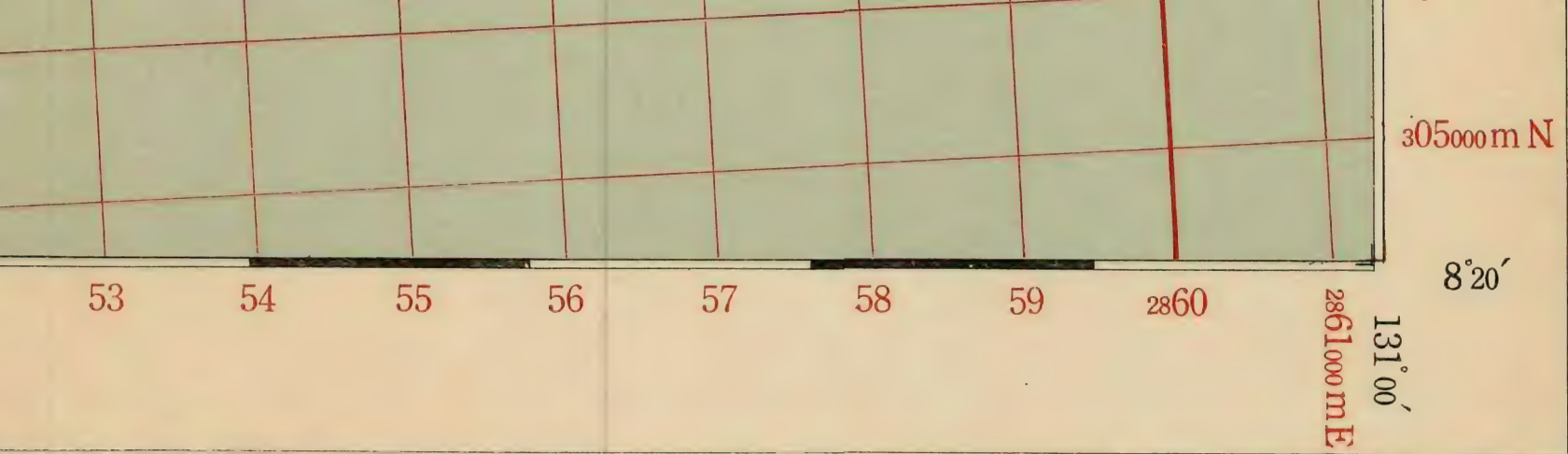
RELIABILITY DIAGRAM



A: RELIABLE FROM VERTICAL AIR PHOTOS
B: FAIRLY RELIABLE FROM OBLIQUE AIR PHOTOS

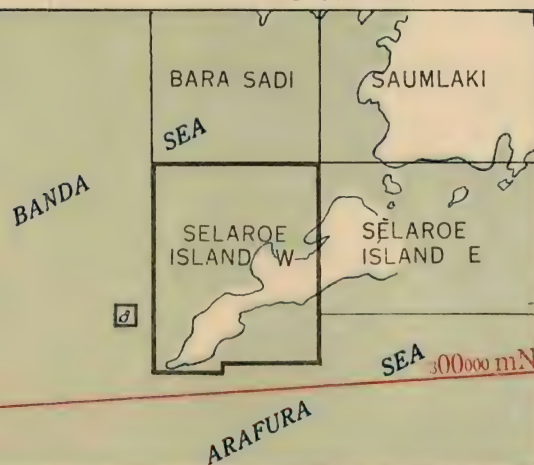


Officers using this map are requested to make any necessary additions and amendments on the map itself and forward same to Survey Directorate, H.Q. of Force concerned.



MILES
4
YARDS
LOS
METRES

INDEX TO ADJOINING SHEETS



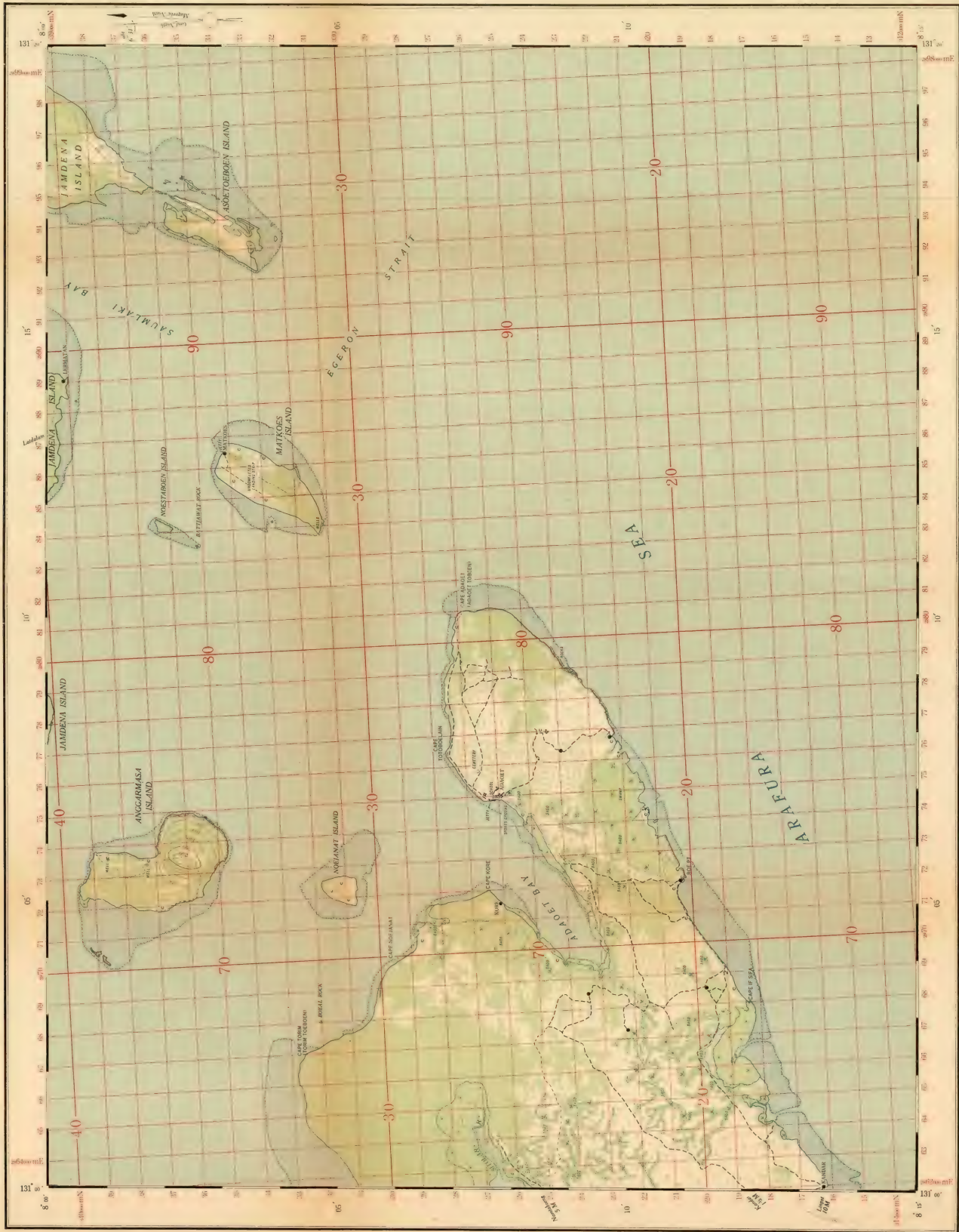
| | | | |
|---|-----|--|-----|
| TO GIVE A GRID REFERENCE ON THIS SHEET Pay no attention to the smaller co-ordinate figures at the corners and in margins. They are for finding full co-ordinates. | | | |
| PAY ATTENTION TO LARGER MARGINAL FIGURES AND TO THOSE PRINTED ON THE FACE OF THE MAP | | | |
| POINT WERAIN | | | |
| East Take west edge of square in which point lies and read the figures printed opposite this line on north or south margin or on the line itself on the face of the map. Estimate tenths eastwards. | | North Take south edge of square in which point lies and read the figures printed opposite this line on east or west margin or on the line itself on the face of the map. Estimate tenths northwards. | |
| | 39 | | 10 |
| | 1 | | 3 |
| East | 391 | North | 103 |
| REFERENCE 391103 | | | |
| Unit ----- Metre | | | |
| Square ----- 1000 | | | |
| Reference to nearest ----- 100 | | | |
| Nearest, similar, reference distance 100 Kilometres | | | |

| | |
|--|------------|
| Native Garden or Cultivation | IG OR CULT |
| Jungle or Dense Forest | |
| Open Forest to } Scattered Timber } | |
| Scrub (Dense to Light) | |
| Secondary Growth | |
| Plantation (rubber-coconuts) | R C |
| Mangroves | V V V |
| Swamp (subject to inundation) | |
| Swamp (permanently inundated) | |
| River or Stream | |
| Reef | |
| Contours - Form Lines (numbers read facing uphill) | 200 |
| Cliffs | |

MAP 9

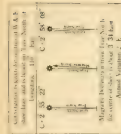
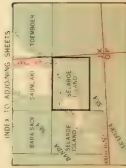
N° 0417 SELBORO ISLAND EAST 1 MILLIMETRES

NETHERLANDS EAST INDIES GRID
SOUTHERN ZONE.



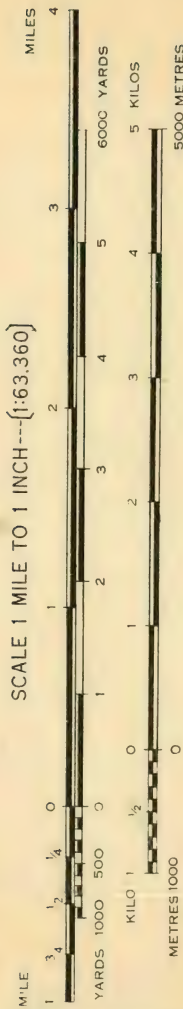
WARNING FORM LINES ONLY, NOT CONTOURS
(INTERVAL APPROXIMATELY 50 FEET)

Prepared by Australian Survey Corps. Topographic maps included by title: *Army Time-Space Survey from Timorostrogia* maps numbered: CQO 41, 100, 111, 112, 113, 114, 115, 116, 117, 118, 119, 120, 121, 122, 123, 124, 125, 126, 127, 128, 129, 130, 131, 132, 133, 134, 135, 136, 137, 138, 139, 140, 141, 142, 143, 144, 145, 146, 147, 148, 149, 150, 151, 152, 153, 154, 155, 156, 157, 158, 159, 160, 161, 162, 163, 164, 165, 166, 167, 168, 169, 170, 171, 172, 173, 174, 175, 176, 177, 178, 179, 180, 181, 182, 183, 184, 185, 186, 187, 188, 189, 190, 191, 192, 193, 194, 195, 196, 197, 198, 199, 200, 201, 202, 203, 204, 205, 206, 207, 208, 209, 210, 211, 212, 213, 214, 215, 216, 217, 218, 219, 220, 221, 222, 223, 224, 225, 226, 227, 228, 229, 230, 231, 232, 233, 234, 235, 236, 237, 238, 239, 240, 241, 242, 243, 244, 245, 246, 247, 248, 249, 250, 251, 252, 253, 254, 255, 256, 257, 258, 259, 260, 261, 262, 263, 264, 265, 266, 267, 268, 269, 270, 271, 272, 273, 274, 275, 276, 277, 278, 279, 280, 281, 282, 283, 284, 285, 286, 287, 288, 289, 290, 291, 292, 293, 294, 295, 296, 297, 298, 299, 300, 301, 302, 303, 304, 305, 306, 307, 308, 309, 310, 311, 312, 313, 314, 315, 316, 317, 318, 319, 320, 321, 322, 323, 324, 325, 326, 327, 328, 329, 330, 331, 332, 333, 334, 335, 336, 337, 338, 339, 340, 341, 342, 343, 344, 345, 346, 347, 348, 349, 350, 351, 352, 353, 354, 355, 356, 357, 358, 359, 360, 361, 362, 363, 364, 365, 366, 367, 368, 369, 370, 371, 372, 373, 374, 375, 376, 377, 378, 379, 380, 381, 382, 383, 384, 385, 386, 387, 388, 389, 390, 391, 392, 393, 394, 395, 396, 397, 398, 399, 400, 401, 402, 403, 404, 405, 406, 407, 408, 409, 410, 411, 412, 413, 414, 415, 416, 417, 418, 419, 420, 421, 422, 423, 424, 425, 426, 427, 428, 429, 430, 431, 432, 433, 434, 435, 436, 437, 438, 439, 440, 441, 442, 443, 444, 445, 446, 447, 448, 449, 450, 451, 452, 453, 454, 455, 456, 457, 458, 459, 460, 461, 462, 463, 464, 465, 466, 467, 468, 469, 470, 471, 472, 473, 474, 475, 476, 477, 478, 479, 480, 481, 482, 483, 484, 485, 486, 487, 488, 489, 490, 491, 492, 493, 494, 495, 496, 497, 498, 499, 500, 501, 502, 503, 504, 505, 506, 507, 508, 509, 510, 511, 512, 513, 514, 515, 516, 517, 518, 519, 520, 521, 522, 523, 524, 525, 526, 527, 528, 529, 530, 531, 532, 533, 534, 535, 536, 537, 538, 539, 540, 541, 542, 543, 544, 545, 546, 547, 548, 549, 550, 551, 552, 553, 554, 555, 556, 557, 558, 559, 560, 561, 562, 563, 564, 565, 566, 567, 568, 569, 570, 571, 572, 573, 574, 575, 576, 577, 578, 579, 580, 581, 582, 583, 584, 585, 586, 587, 588, 589, 590, 591, 592, 593, 594, 595, 596, 597, 598, 599, 600, 601, 602, 603, 604, 605, 606, 607, 608, 609, 610, 611, 612, 613, 614, 615, 616, 617, 618, 619, 620, 621, 622, 623, 624, 625, 626, 627, 628, 629, 630, 631, 632, 633, 634, 635, 636, 637, 638, 639, 640, 641, 642, 643, 644, 645, 646, 647, 648, 649, 650, 651, 652, 653, 654, 655, 656, 657, 658, 659, 660, 661, 662, 663, 664, 665, 666, 667, 668, 669, 670, 671, 672, 673, 674, 675, 676, 677, 678, 679, 680, 681, 682, 683, 684, 685, 686, 687, 688, 689, 690, 691, 692, 693, 694, 695, 696, 697, 698, 699, 700, 701, 702, 703, 704, 705, 706, 707, 708, 709, 710, 711, 712, 713, 714, 715, 716, 717, 718, 719, 720, 721, 722, 723, 724, 725, 726, 727, 728, 729, 730, 731, 732, 733, 734, 735, 736, 737, 738, 739, 740, 741, 742, 743, 744, 745, 746, 747, 748, 749, 750, 751, 752, 753, 754, 755, 756, 757, 758, 759, 760, 761, 762, 763, 764, 765, 766, 767, 768, 769, 770, 771, 772, 773, 774, 775, 776, 777, 778, 779, 780, 781, 782, 783, 784, 785, 786, 787, 788, 789, 790, 791, 792, 793, 794, 795, 796, 797, 798, 799, 800, 801, 802, 803, 804, 805, 806, 807, 808, 809, 810, 811, 812, 813, 814, 815, 816, 817, 818, 819, 820, 821, 822, 823, 824, 825, 826, 827, 828, 829, 830, 831, 832, 833, 834, 835, 836, 837, 838, 839, 840, 841, 842, 843, 844, 845, 846, 847, 848, 849, 850, 851, 852, 853, 854, 855, 856, 857, 858, 859, 860, 861, 862, 863, 864, 865, 866, 867, 868, 869, 870, 871, 872, 873, 874, 875, 876, 877, 878, 879, 880, 881, 882, 883, 884, 885, 886, 887, 888, 889, 890, 891, 892, 893, 894, 895, 896, 897, 898, 899, 900, 901, 902, 903, 904, 905, 906, 907, 908, 909, 910, 911, 912, 913, 914, 915, 916, 917, 918, 919, 92

[illegible]

Officers using this map are requested to make any necessary additions and amendments on the map itself and forward same to Survey Directorate, I.Q. of Force concerned.

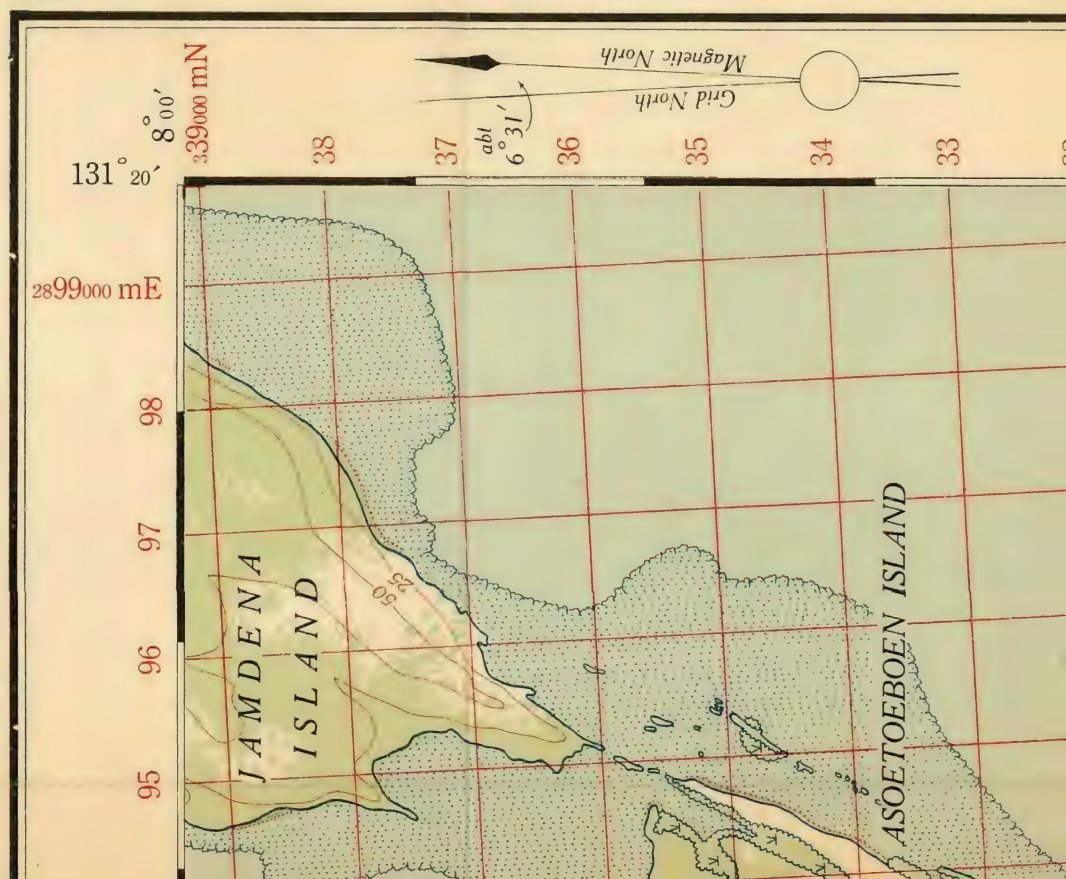
REFER TO THIS MAP AS:
 N^o 0437 SELAROE ISLAND EAST 1 INCH SERIES

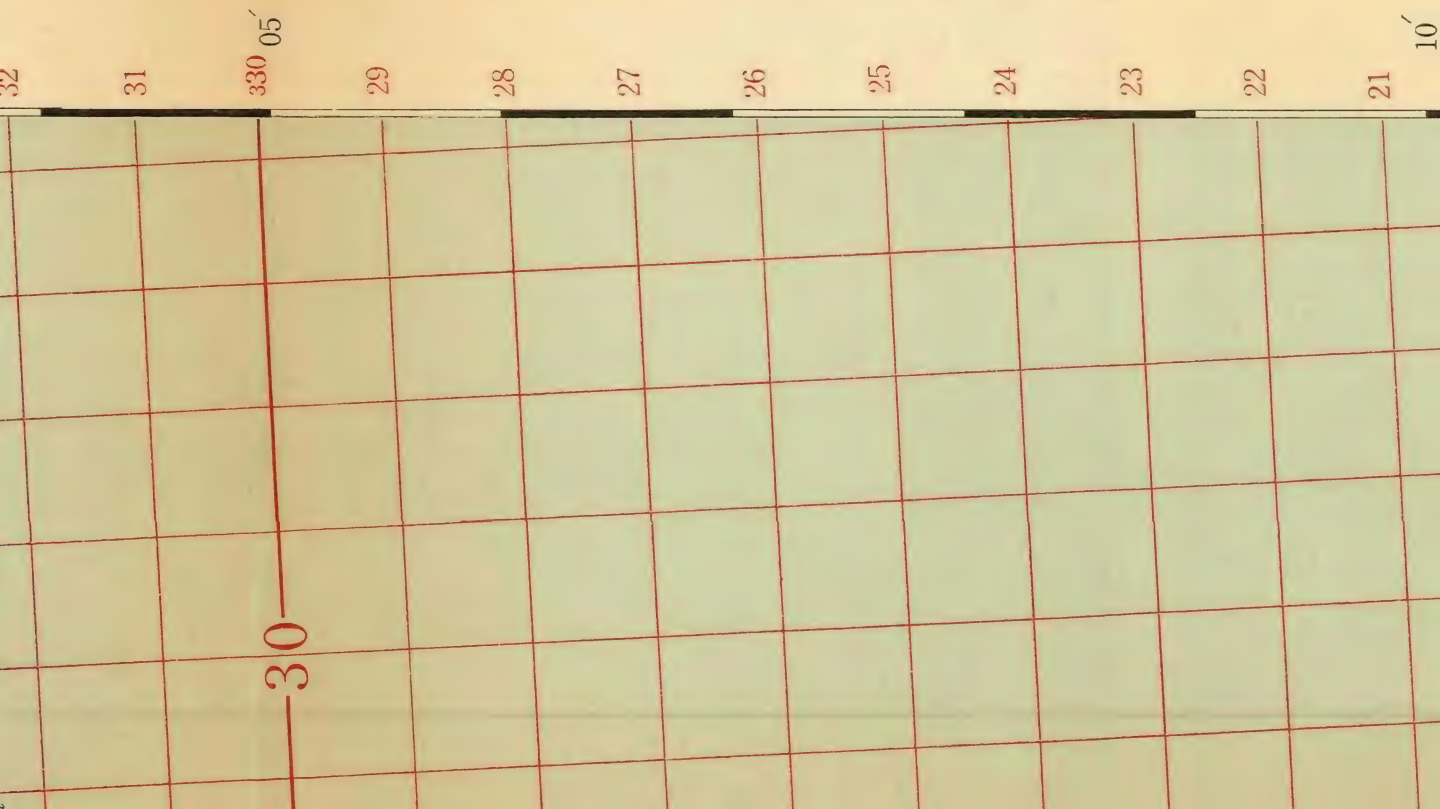


WARNING: FORM LINES ONLY, NOT CONTOURS
 (INTERVAL APPROXIMATELY 50 FEET)

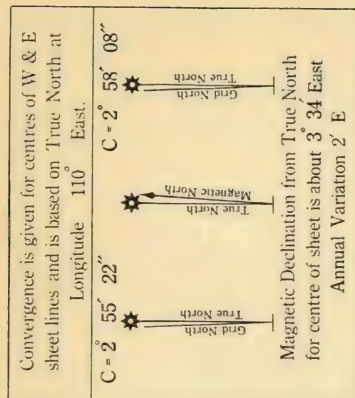
Prepared by Australian Survey Corps. Topography compiled by 2/1 Aust Army Topo Svy Coy from Trimetrogon Photography missions: COO 46/10A, 11 Aug 43, COO 45/5C, 13 Jun 43, COO 25/15, 15 Mar 44, by No 1 PRU, RAAF: FEN 17/2, Run No 15, 7 Apr 44, FEN 45/1, 22 Sep 43, and large scale Air Photography missions: FEN 17/2, Run Nos K67-3, K67-5, K67-6, 7 Apr 44, by 380th Bomb Group 5th Air Force US Army. Additional information obtained from Allied Geographical Section and Netherlands Government Charts, Nos 382, 383. Form lines determined by Parallax measurements. Scale, Azimuth and Grid Position are controlled by positions scaled from Chart No 382, as follows, Adaoet Jetty Lat 8° 07' 39.6" Long 131° 06' 46.8", Astoeboen Island Lat 8° 03' 41.5", Long 131° 16' 49", Saumlaki Jetty Lat 7° 58' 56.5", Long 131° 17' 41.5"

Reproduced by 2/1 Aust Army Topo Svy Coy, May 44.
 Lambert Conical Orthomorphic Projection.



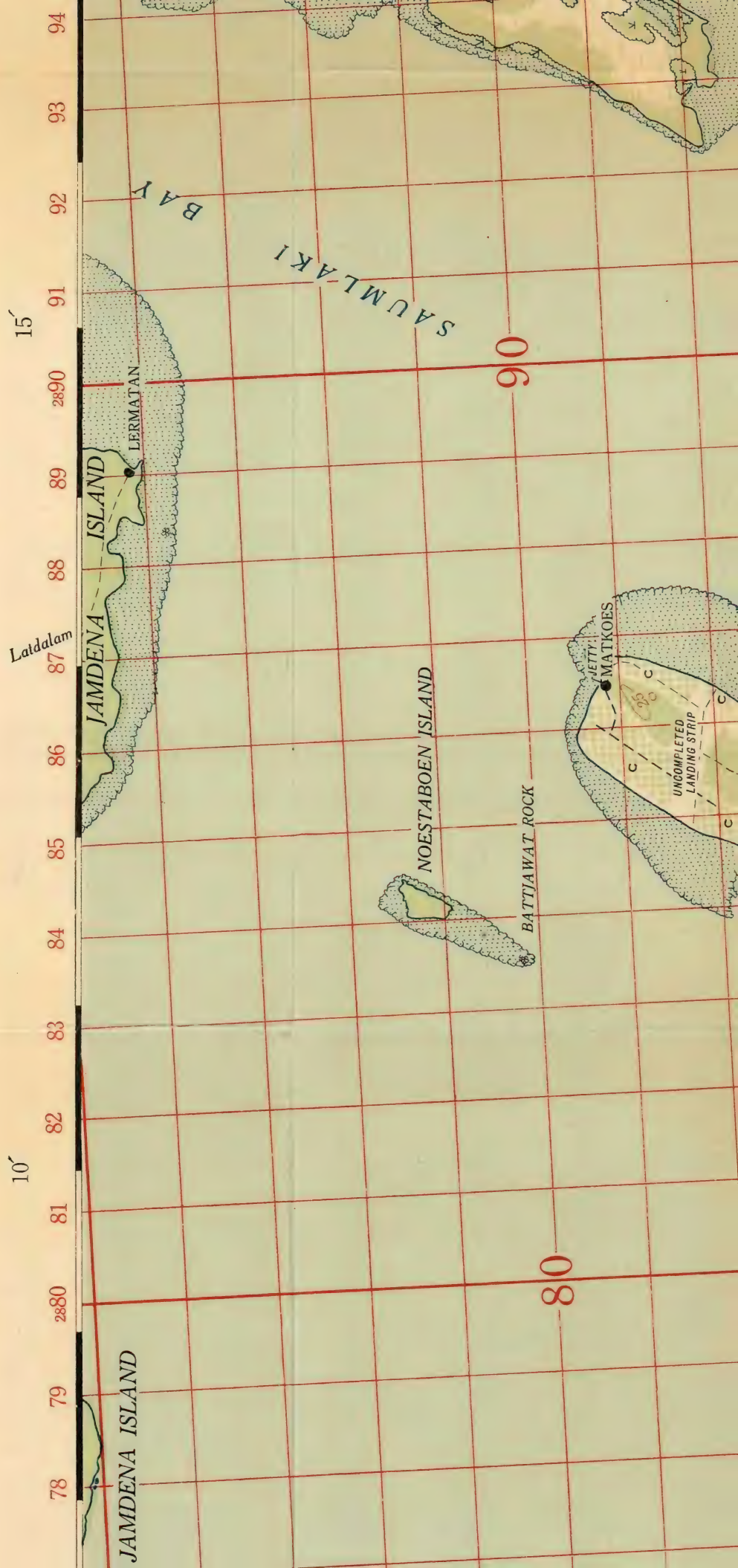


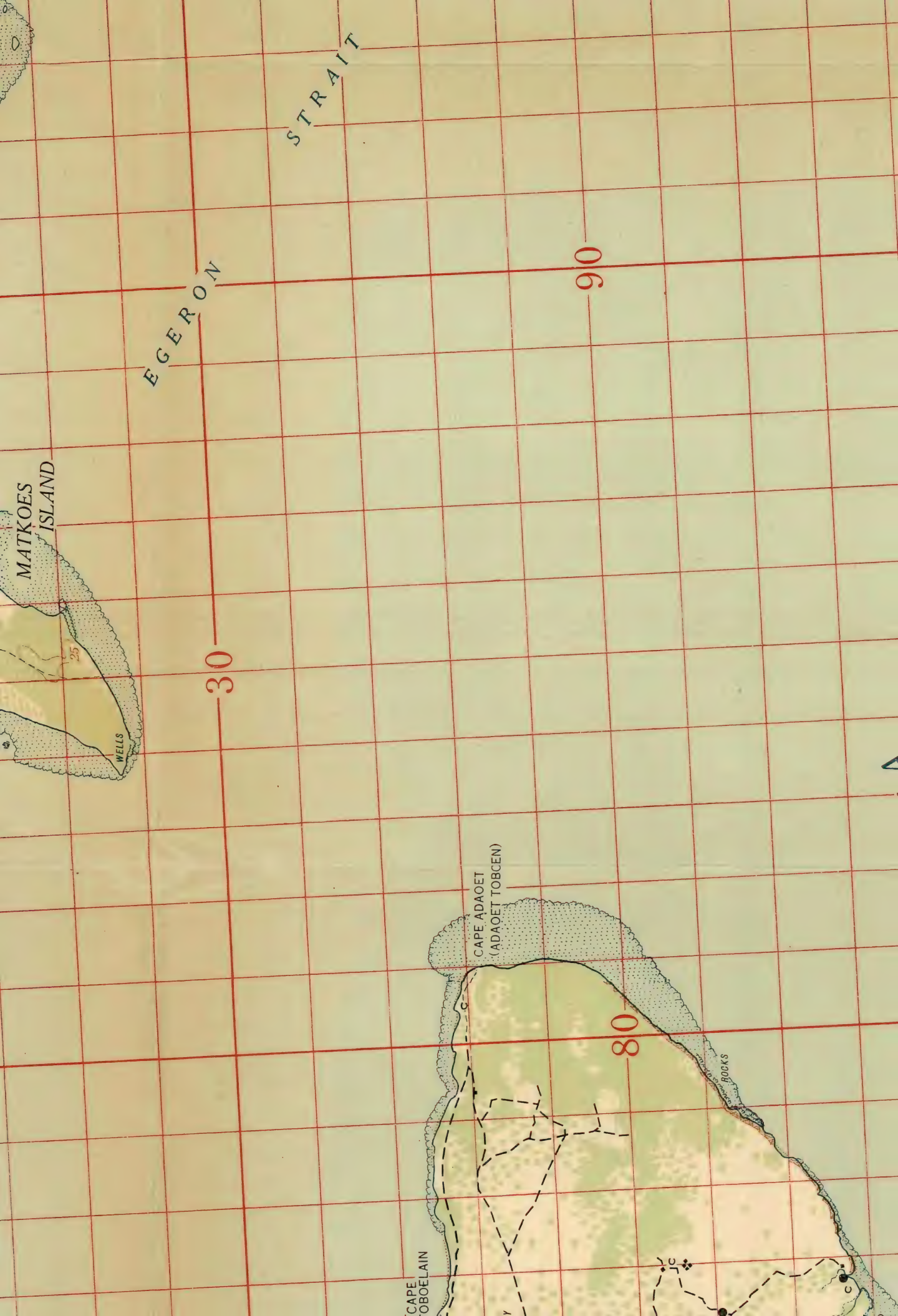
A: RELIABLE FROM VERTICAL AIR PHOTOS
B: FAIRLY RELIABLE FROM OBLIQUE AIR PHOTOS



Motor Road and Bridge
Jeep Track
Foot Track
Reported Track
Telegraph Line
Airfield
Sea Plane Base
Astronomical Station
Trig Stations and Altitudes
Spot Height
Native Village (small or large)

TANIMBAR ISLANDS
SELAROE ISLAND EAST





SE

20

90

80

92

91

2890

89

88

87

86

85

84

83

82

81

2880

79

78

77

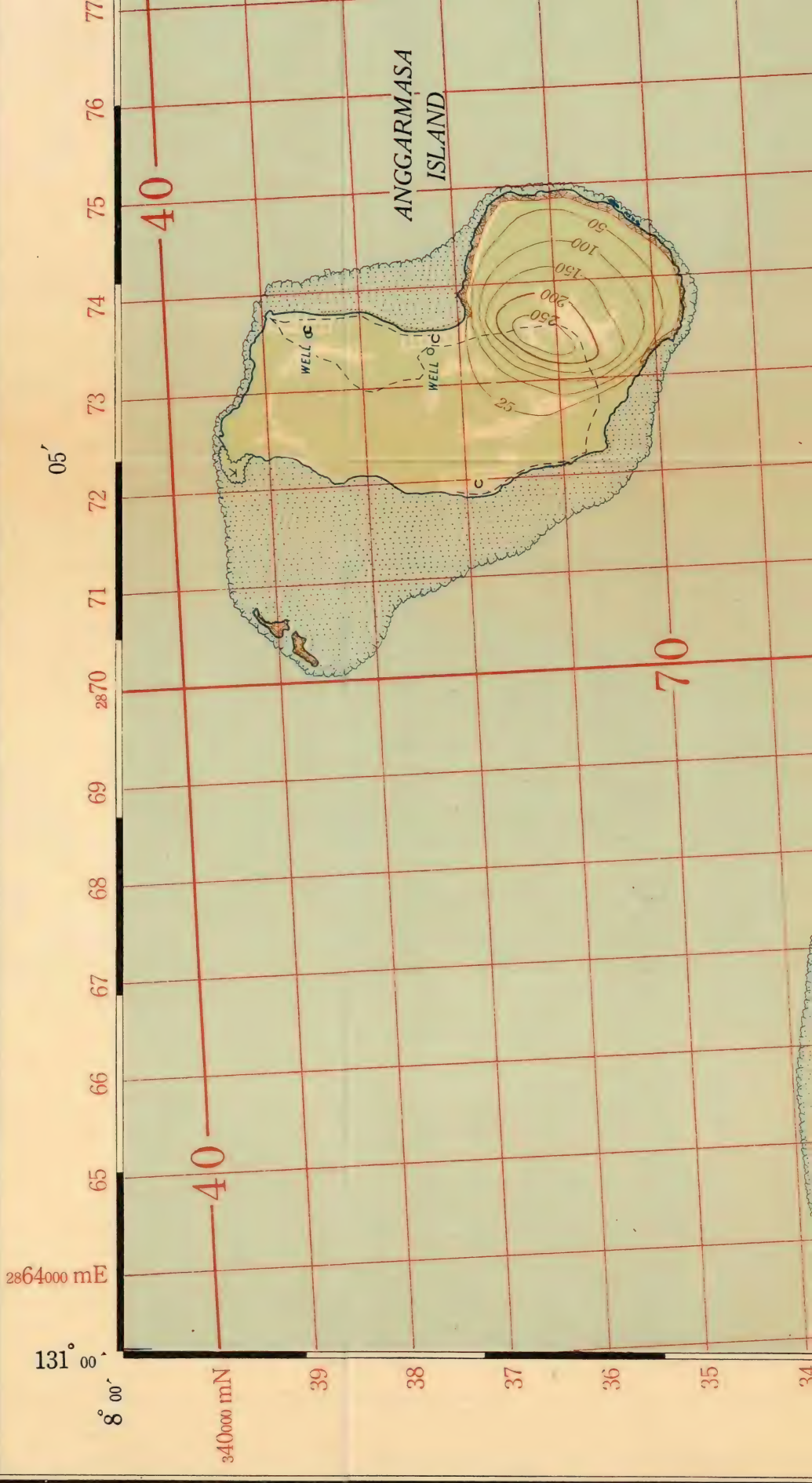
76

15'

10'

NETHERLANDS EAST INDIES GRID
SOUTHERN ZONE

1 : 63,360





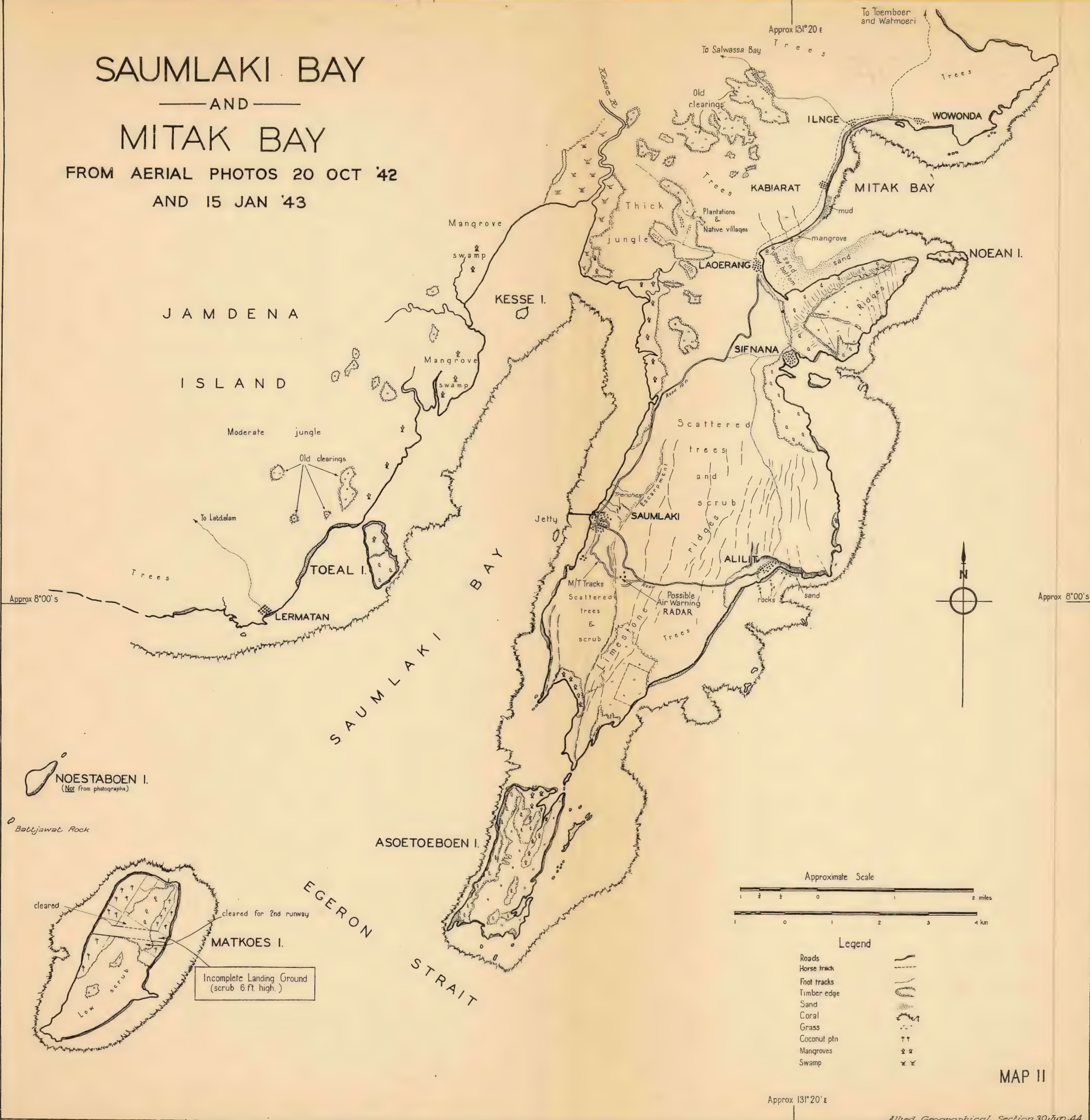
SAUMLAKI BAY

—AND—

MITAK BAY

FROM AERIAL PHOTOS 20 OCT '42

AND 15 JAN '43



SAUMLAKI BAY

—AND—

MITAK BAY

FROM AERIAL PHOTOS 20 OCT '42

AND 15 JAN '43

J A M D E N A

I S L A N D

Moderate jungle

Old clearings

To Letdolem

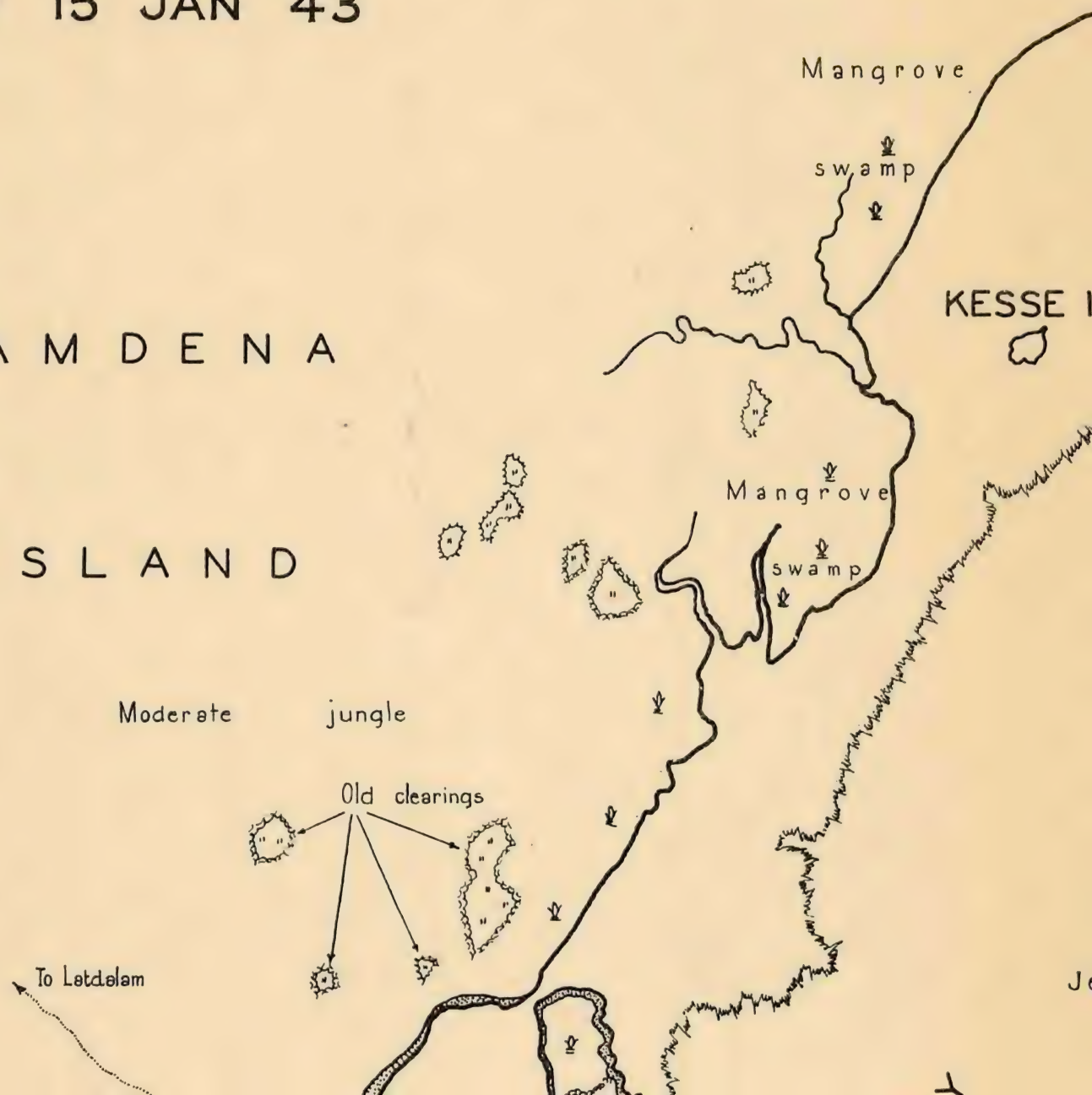
Mangrove

swamp

KESSE I

Mangrove

swamp





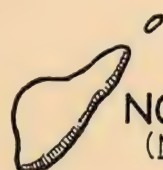
Trees

Approx 8°00' s

TOEAL I.

LERMATAN

SAUMLAKI



NOESTABOEN I.

(Not from photographs)

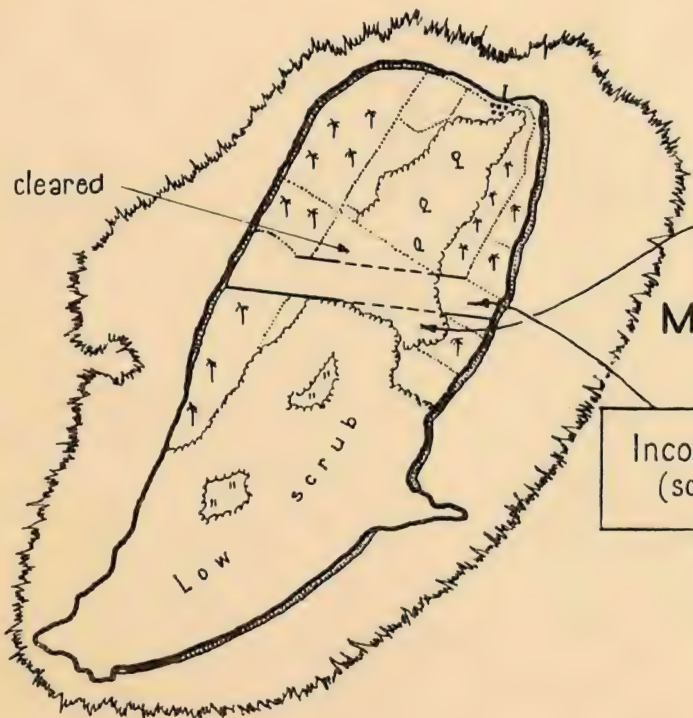


Battjawat Rock

ASOETOEOEN I.

EGERON

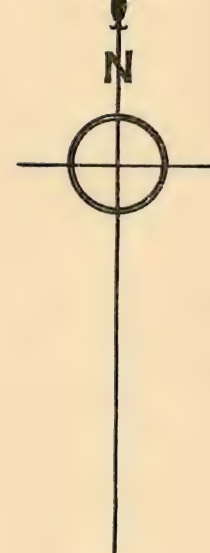
STRAIT



cleared for 2nd runway

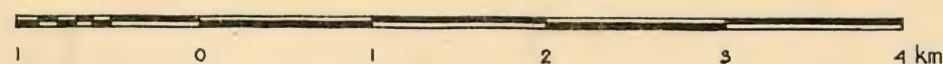
MATKOES I.

Incomplete Landing Ground
(scrub 6 ft. high.)



Approx 8°00's

Approximate Scale



Legend

| | |
|-------------|--|
| Roads | |
| Horse track | |
| Foot tracks | |
| Timber edge | |
| Sand | |
| Coral | |
| Grass | |
| Coconut ptn | |
| Mangroves | |
| Swamp | |

MAP II

Approx 131°20'E

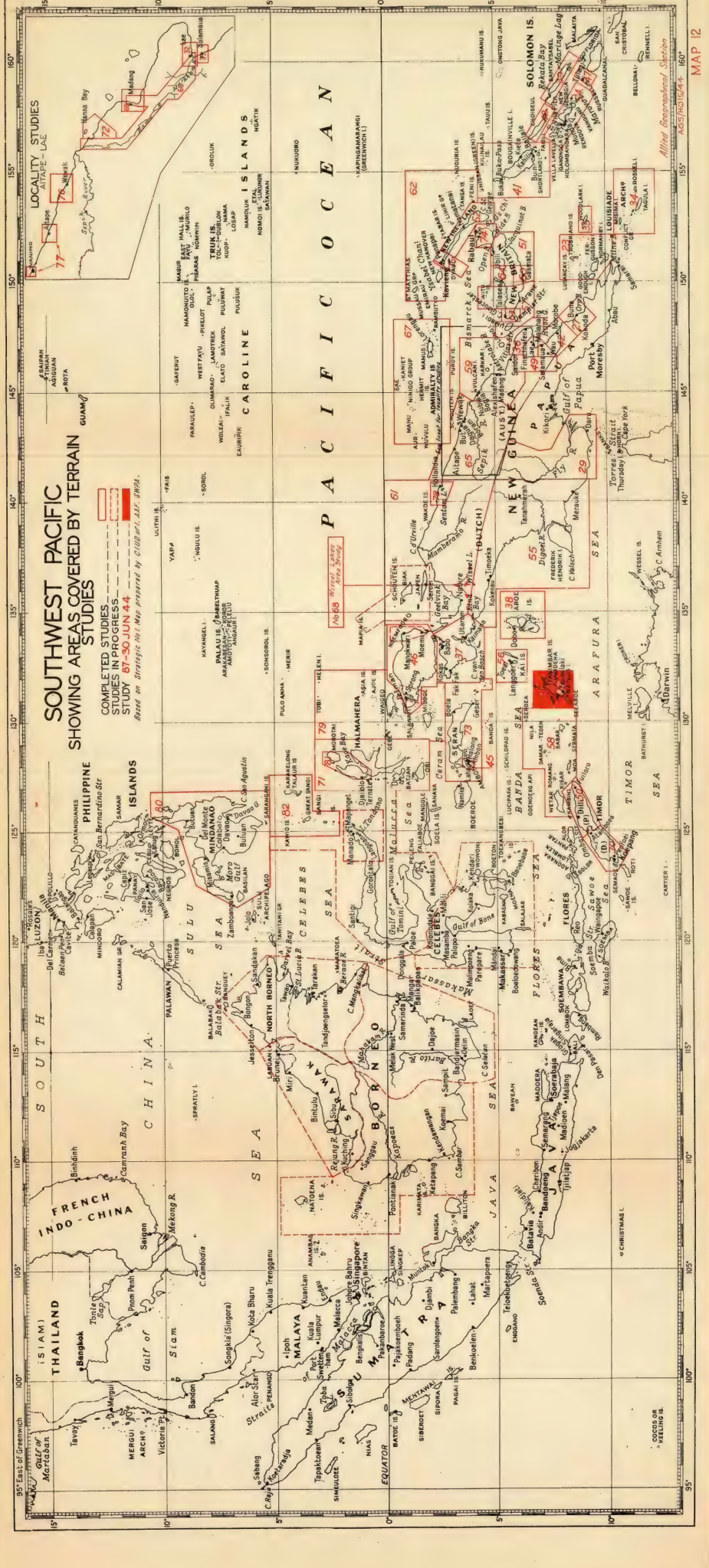
Allied Geographical Section 30 Jun 44

AGS/HQ 104/44

Alfred Deschamps, Captain
AGS, NO. 144

SOUTHWEST PACIFIC SHOWING AREAS COVERED BY TERRAIN STUDIES

COMPLETED STUDIES
STUDIES IN PROGRESS
STUDY 87-30 JUN 44
Based on Strategic Air Map prepared by CIBD and AAF, 1944.



COCHIN
INDIA

150°

155°

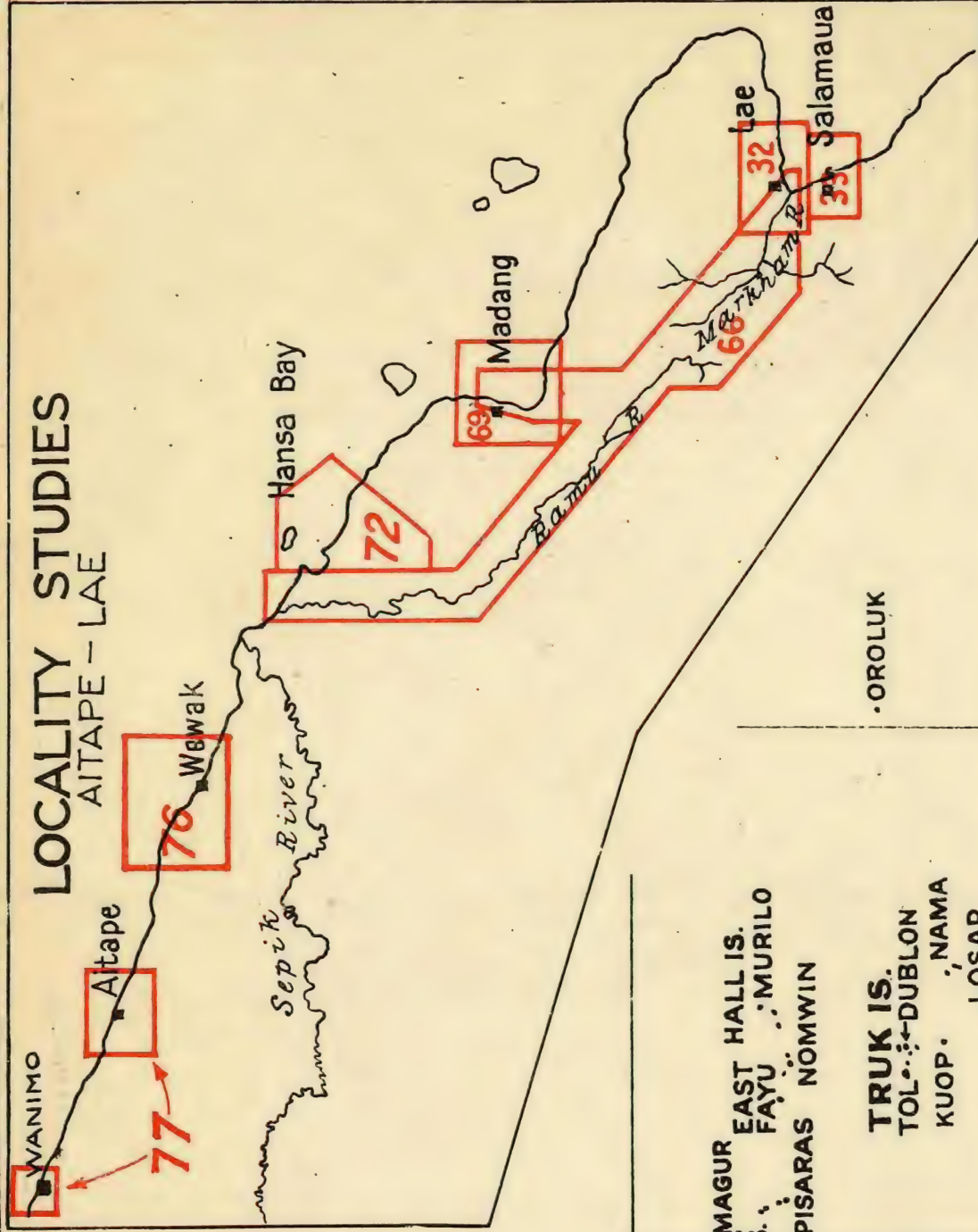
160°

SAIPAN
TINIAN
IGUAN

OTA

LOCALITY STUDIES

AITAPE - LAE



AFERUT

NAMONUITO IS.
OLOL

WEST FAYU

PIKELOT

LAMOTREK

SATAWOL

OLINE

PULAP

PULUWAT

PULUSUK

MAGUR EAST HALL IS.
FAYU MURILO
PISARAS NOMWIN

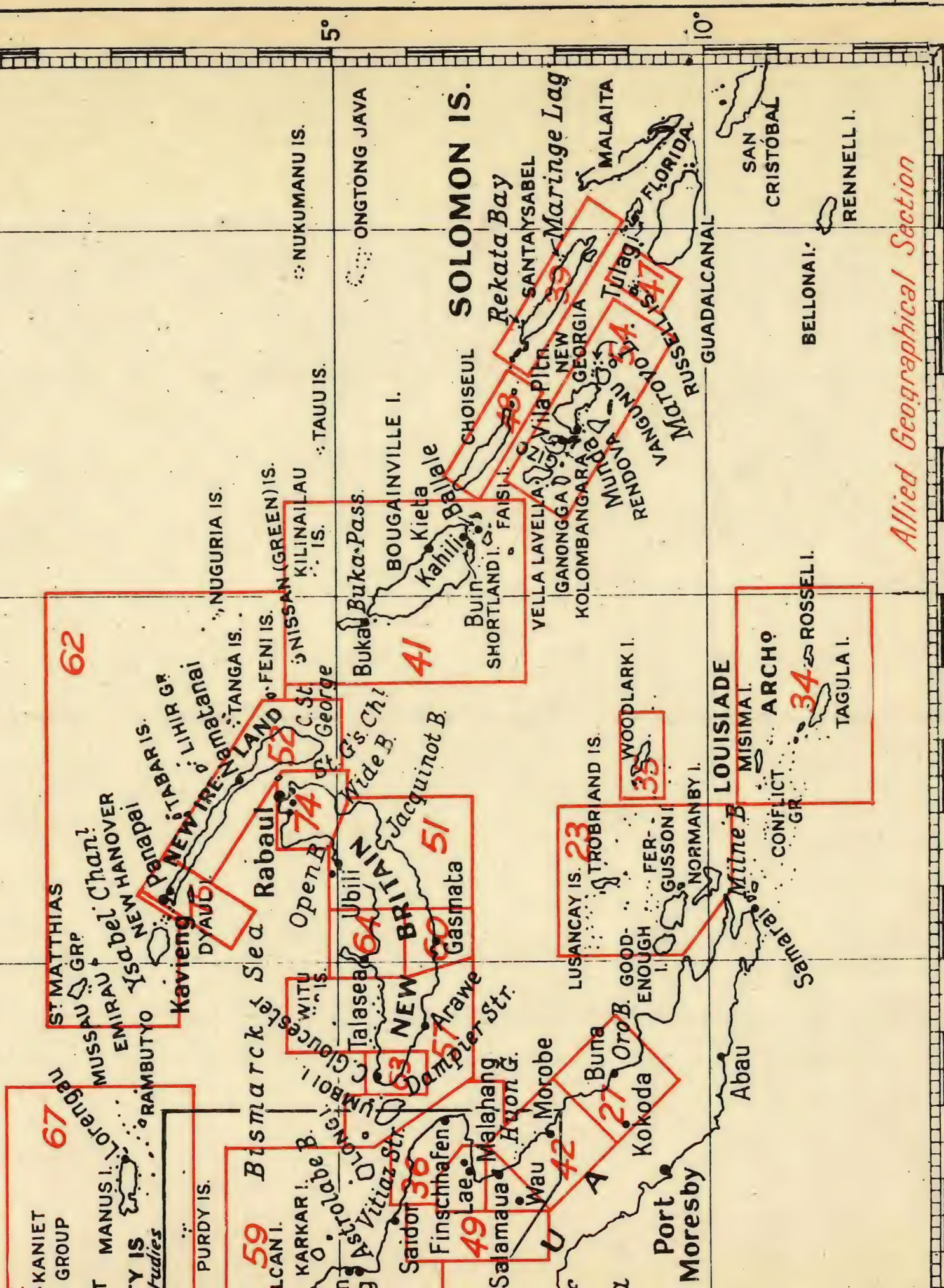
TRUK IS.
TOL DUBLON
KUOP NAMA
LOSAP

NAMOLUK ISLANDS
ETAL NGATIK
NOMOI IS. LUKUNOR
SATAWAN

NUKUORO

F I C O C E A N

KAPINGAMARANGI
(GREENWICH I.)



150° 155° 160°
AGS/HQ15/44

MAP 12

130°

135°

140°

145°

SOUTHWEST PACIFIC

SHOWING AREAS COVERED BY TERRAIN STUDIES

GUAM

COMPLETED STUDIES
STUDIES IN PROGRESS
STUDY **87-30 JUN 44**

Based on Strategic No 1 Map prepared by C.IUD of I. AAF. SWPA.

ULITHI IS.

YAP

FAIS

NGULU IS.

SOROL

FARAULEP

KAYANGEL I.

PALAU IS. BABELTHUAP
ARAKABESAN KOROR
AMOTOTI PELELIU
ANGAURI

WOLEAI
IFALIK

EAURIPIK

Agustin

IS.

ARAKELONG
ALAU IS

PULO ANNA
MERIR

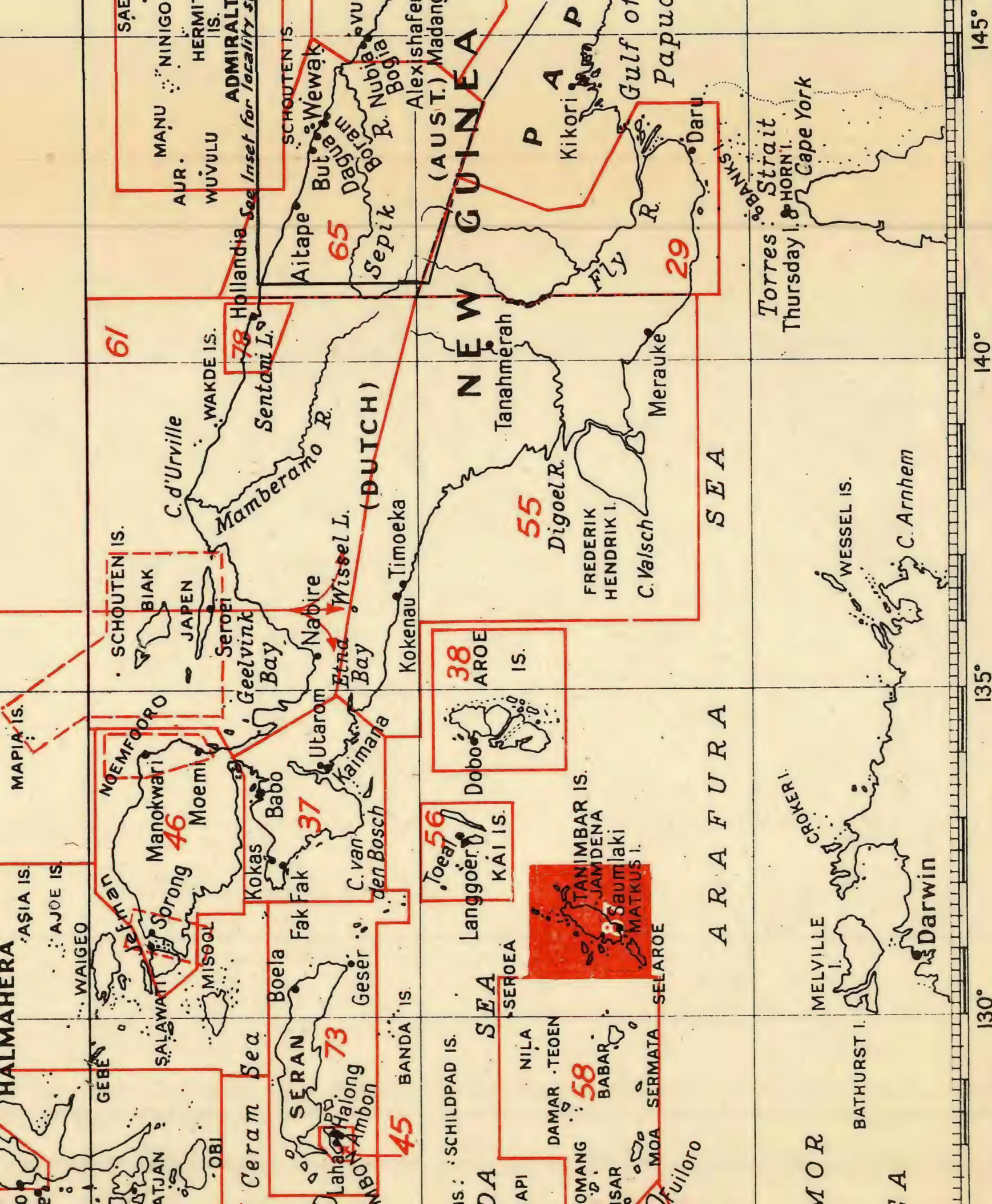
TOBI
HELEN I.

79

MOROTAI
Kage Bay

P A C I

No 68 Wissel Lakes
Area Study



110°

115°

120°

125°

S O U T H

C H I N A

• SPRATLY I.

S U L U

S E A

S E A

S E A

C E L E B E S

S E A

LUZON
Iba
Del Carmen
Bataan Peninsula
Cavite

Manila

Polillo
Batangas

Binh Dinh

Camranh Bay

CATANDUANES

PHILIPPINE

MINDORO

San Bernardino S

CALAMIAN GR.

SAMAR

Ormoc

Legaspi

MASARATE

Capiz

PANAY

Iloilo

San Jose

Bacolod

Nandiritia

CEBU

Lahug

BOHOL

NEGROS

Palawan

Puerto Princesa

Butuan

Del Monte

MINDANAO

80

Misamis

Colabato

Davao

Buluan

Moro Gulf

BASILAN

Zamboanga

Jolo

ARCHIPELAGO

SULU

TAWITAWI GR.

Darvel Bay

St. Lucia B.

Tarakan

Marathea

Beraoe R.

BALABAK Str.

BANGUEY

Bongon

Sandakan

Jesselton

LABUAN I.

Brunei

Miri

Bintulu

Sibu

Rejang R.

Kuching

Manapet

82

KAWIO IS.

GREAT SAN

SANGI

IS.

Manapet

Manapet

Manapet

Manapet

Manapet

Manapet

